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Our Objectives[1]

HELEN A. HUNSCHER, Ph.D.

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EACH YEAR a business, an educational institution, or a professional organization evaluates the activities and accomplishments of the previous twelve-month period in the light of its plans, goals, or objectives, and sets the findings forth in an annual report. To see the trends, however, longer periods must be viewed. This is the thirtieth year of the American Dietetic Association. It is an appropriate time to review the past, to take stock of the present, to peer into the future, and to reorient, if necessary, the means for achieving the group-determined goals or objectives. How far have we progressed in attaining our objectives as stated in the constitution? What can we do to achieve them more directly with the changing conditions or currents of the time?

As an association we find ourselves in the prime of life, with 8000 members who meet known standards for membership, and with professional accomplishments of which we are very proud. The American Dietetic Association is the only national organization concerned specifically with applied nutrition. This is a challenge. The interpretation, translation, and application of research findings to the art and science of feeding people have tremendous and worldwide need and value. Responsibility rests heavily upon us. We must meet it!

To check our standards, we need to go to the stated general plan for association activities. This we find simply set forth in our Constitution, Article II: "The object of this Association shall be to improve the nutritional status of human beings; to bring about closer cooperation among dietitians and nutritionists, and workers in allied fields; to raise the standards of dietary work."

Since the first part is a definition of the job specification of every member and is well recognized, it seems wise to emphasize the next two parts. "To raise the standards of dietary work" has been and is the primary and constant purpose of the activities of our four sections and several special committees. The record shows this, in the higher standards for membership and for educational preparation; and in the constant checking of these standards over the years. The programs of the national, state, and local associations indicate the continuing interest in learning newer and better methods for improved performance of work. Our JOURNAL is one of the best written records in which our Association sets forth the new and the tested approaches to raising the standards of dietary work. The books, pamphlets, and reports contributed by our members from committee and project work are permanent evidence of the drive to do better what we have set out to do.

It would seem that more emphasis needs to be brought on the third part of the object, i.e., "To bring about closer cooperation among dietitians and nutritionists and workers in allied fields." This can be divided advantageously into two parts, namely, "cooperation among dietitians and nutritionists" on the one hand, and "with workers in allied fields" on the other. Neither of these has been neglected, but if we are to accomplish what we should for individual members and the Association as a whole, more acceleration on these objectives seems essential. Perhaps it would be better to use the term "working together" and add "for individual development and for the influence and status of the Association."

Industry, research, government, education, and the professions frequently attain their goals faster and more adequately by bringing people with various points of view and common interests together in concentrated effort on the same objective. Sometimes, the accomplishment of the objective is not as important as the effect on the workers in the projects, namely, the experience of cooperative enterprise—of "working together." The productivity of a group is more than the simple addition of the contribution of each participant. The end product and the means by which it is attained depend upon a combination of traits of the individuals and high group morale. The traits of individuals which help produce for the group include resourcefulness, diligence, courage, and generosity. Cooperative work, for the benefit of many, gives an opportunity for education and development that is usually strange to classroom education. Differences of opinion come into all team work because of various points of view and all members of a team make contributions. Evaluating each opinion and trying

[1] Address of the President-Elect of the American Dietetic Association, prepared for the House of Delegates, October 17, 1947.

one or another composite policy with an open mind and with generous recognition of the contributions of others is an essential part of group life and individual development. Cooperation or working together among ourselves is essential for productivity for the professional organization and results show in the advantages gained. Can we accomplish more by intensified working together and planned cooperation? The answer is, "Yes."

We need to offer more opportunities and encouragement for group professional work among the young or the untried members in state and local associations. This is a real means of discovering potential leadership and for developing professional enthusiasm. Many of our small and large groups of dietitians, whether joined in an association or not, have carried on projects in which many members could participate. These projects not only contributed to the community or to the group for their own use, but more important, they taught team work, stimulated professional attitudes, and showed how to participate cooperatively as well as how to lead a group.

It is essential to realize that those who are elected or appointed to carry leadership in any organization such as ours, do so for professional interest and at personal sacrifice of time and rest. It is not easy to lead a large group and to make decisions which will please all members at all times. By having had experience in smaller groups, members acquire professional enthusiasm and training for greater responsibilities of leadership. Leadership, it is said, is developed "by ordinary men with more than ordinary determination who keep everlastingly at it."

This next year's projects have been selected and classified so as to provide for various types of activities according to the groups which will participate. The first group of activities in each section will be carried by committees especially appointed from persons who are believed to be effective in producing a piece of work needed by the membership. The second group of projects will be outlined and coordinated by a national committee, but will be carried on through sections of the state associations for the use of their members. The third group gives suggestions for state or city or town associations or any group of dietitians to pursue for their own professional experience or for contribution to their communities. It is hoped that this plan will broaden the base in respect to participation of members in professional activities in that it will increase the number who actually get the "feel" of professional contribution outside their own positions. People in general seem to value an organization of any kind in proportion to the contributions they make to it by working together for the common good.

The other phase of the second constitutional objective on cooperation deals with "allied professions." Here is a place where working together is a fine contribution to Public Relations. The American Dietetic Association seeks and answers many requests which further the knowledge and appreciation of the dietetic profession. Individuals in their own positions, likewise, carry a similar responsibility.

A complete list of groups with whom the American Dietetic Association cooperates would be very long. Outstanding among them are American Association for the Advancement of Science, American Home Economics Association, American Hospital Association, American Public Health Association, Food and Nutrition Board of the National Research Council, UNESCO, Veterans Administration, National League of Nursing Education, and Women's Joint Congressional Committee. In addition, because of the variety of backgrounds and professional interests of our members, there are many contacts with allied professional organizations, such as the American Chemical Society and the American Institute of Nutrition, as well as innumerable civic and service organizations. Because dietetics is an integration of many fields involving the natural sciences, social sciences, and even art, there are opportunities for members to cooperate in enterprises of many groups and, therefore, to spread the development of knowledge and of appreciation of our profession by those in many other fields of interest. Each member has the responsibility of carrying her part well in these diverse contacts.

Some excerpts from a symposium on professional and economic status of the American Chemical Society this year seem to have some valuable thoughts for dietitians. It was pointed out that many of the problems that confront the chemists in their professional organization are of the same type that confront the United Nations. "While chemists are clamoring for someone to make them recognized as professional men, raise their standards of living, and give them a code of ethics and more responsibility, nations are fumbling over the same issues." Thus other professional groups are thinking and working on relationships with other groups and the public just as we are. They have analyzed their situations to the point of saying, "To increase our professional status we must start in our own back yards." They believe that many of the problems of professional status would be lessened and even disappear if each chemist would take to heart some of the fine recorded definitions of a profession.

A clear cut description of a "professional employee" is now written into the laws of this country. His work is "predominantly intellectual and varied in character," and it "involves the consistent exercise of discretion and judgment in its performance." It is recognized that each member of the various professions must be intent on continuously improving his knowledge and performance not only for his own benefit but for the continuous advancement of his profession.

If we want to maintain our rightful place as a profession, we must "start in our own back yards"; we, as individuals, must make valuable contributions in our own organizations and in our own communi-

ties. Each of our endeavors in a varied staff in our own institutions or agencies which makes for smoother functioning of the whole has as its reward recognition of the value of dietitians. So it is in a community where dietitians have and do help with the food and nutrition problems of the population. If it is a job well done, the people will look to dietitians as the leaders for betterment in nutrition and health in their community. This is recognition and respect for professional status.

Professional status is gained by dynamic demonstration of its worth whether with allied professions or with the public in general. If each one of us takes good care of his "own back yard," then the sum total yields much for the Association as a whole. It has been found by a large professional organization from an ambitious study of its organization and activities that public relations are inseparable from the work of its local groups and individual members.

The relationship between good work of a staff of an institution or members of a profession and public relations has been emphasized by public relations directors in many institutions, agencies, businesses, and professions. Public relations is actually a measure of prestige enjoyed. As one writer aptly stated:

"It must be remembered, however, that publicity alone cannot determine prestige; far more important in the long run are an institution's people and the decisions they make, the work they do, the words they speak, the acts they commit, the attitudes they take.

"Public relations then must be a team job—a way of life for a whole institution and not just the job of a single individual, office, or department."

In summary, by checking our course as set forth in our Constitution, namely Article II which reads, "The object of this Association shall be to improve the nutritional status of human beings; to bring about closer cooperation among dietitians and nutritionists, and workers in allied fields; to raise the standards of dietary work," we find we have been "on the beam" but the road stretches out before us. As on all highways we are not alone but, on the other hand, we need to work along with allied professions and with the public. By so doing we will come closer to attaining the objectives set forth in our Constitution, Article II.

A study of the chart of the Public Relations Committee in the August issue of the JOURNAL gives a splendid picture of the way each member, each small group of dietitians, and each city and state association can make contributions to society that will yield the best recognition of a job well done by dietitians. This spells good public relations and increases professional status. The Public Relations Committee has charted in detail certain parts of the way to achieving our objectives. Let every member follow!

A.D.A. Public Relations Committee

Public relations for the American Dietetic Association, the profession of dietetics, and for the dietitian as an individual is a vital problem. To help meet the challenge of providing a successful public relations program for the Association and the profession, the President, with the approval of the Executive Board, has appointed an enlarged Public Relations Committee for 1947–48. In making the appointments, consideration was given to the problem of representation of all segments of the Association's membership, as well as geographical representation. On the Committee listed below are members from the fields of research, business, journalism, government service, community nutrition, administration, school lunch, hospital dietetics, and college teaching. The members come from all sections of the country—the Pacific Coast, Southwest, Southeast, Middle West, and East—and represent the civilian dietitian as well as the veteran dietitian. The ideas and counsel which should come from a group of such wide experience and interests, it was felt, would enable the Executive Board to take action in regard to public relations which would be both well advised and well considered. The members of the Public Relations Committee are:

CO-CHAIRMEN

Elizabeth Perry, Assistant Superintendent and Chief Dietitian, Cleveland City Hospital, Cleveland

Helen Robertson, Home Economics Editor, Cleveland *Plain Dealer*, Cleveland

MEMBERS

Marjorie Hall Siler, Cincinnati—Also serving as Chairman of Vocational Guidance for A.D.A.

Evelyn L. Blanchard, Head, Biological Research and Experimental Kitchen, Golden State Research Laboratories, San Francisco

Bertha E. Nettleton, Director, Consumer Service Department, General Foods Corporation, New York City

Drewsilla Beams, Chief Dietitian, Baylor University Hospital, Dallas, Texas

Margaret Fitzhugh, Director of Cafeterias, Richmond Public Schools, Richmond, Virginia

Evelyn Hollen, University of New Mexico, Albuquerque, New Mexico

Mary Reeves, Social Security Board, U. S. Federal Security Agency, Regional Office, No. 6, Chicago

Readable Writing[1]

AMY GRONNA COWING

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In view of the dietitian's need for a vocabulary suitable for use in teaching the lay public, an invitation was given by the clinic nutritionists of Chicago to Mrs. Cowing to discuss this problem as it relates to the teaching of patients. The following paper was prepared from this discussion.

READABLE writing has been defined as writing that is easier to read than to skip. In our Extension Readability Laboratory in Washington we have been studying our Extension publications to find out whether or not they are "easy reading" for our "average" readers—farm readers who might range in formal schooling from the ninth grade in Utah to the fifth grade in Louisiana—or even lower.

Our Extension Readability Program started during the war when we came face to face with an emergency job of mass communication. Extension workers suddenly found themselves with the job of getting information on war programs to every rural family in every state—information on the need for bigger production on the farms, better nutrition practices for better health, buying war bonds, rationing, and salvage programs—to name a few wartime activities. The success of our Extension wartime activities depended upon how well we informed people—how clearly they *understood* our information.

Off and on for the last fifty years scientific writers in agriculture expressed the need for simple publications for the less-schooled, but not much was done about it. Many of them felt they would lose prestige with their professional colleagues if they put out a circular in the simple everyday language of their readers. Too often specialists were victims of the red tape of government editing that invariably dehydrated their informal manuscripts.

READABILITY TESTS

Wartime emphasized the urgency of writing readably. But what were the elements of readability? When could we be sure that we turned out "easy reading"? It was no time for guesswork. So Extension started studying ways of measuring writing to find out what makes some writing easy and some hard to read.

Language psychologists for over twenty years have been taking writing apart to find the reasons for reading difficulty. Some have worked out statistical formulas or yardsticks for measuring readability. Educators have been working on techniques to grade textbooks for school children. Librarians have been interested in knowing how to measure reading difficulty of books they recommend for adults with little schooling. People in adult education have been concerned about the need for easy-to-read books in philosophy, economics, and science—books that "average" readers can read comfortably.

In 1936, the American Association of Adult Education set up a Readability Laboratory at Teachers College, Columbia University. Here they brought together all that was known about Readability.

Edgar Dale and Ralph W. Tyler had made a study in 1934 of written material on personal health, a topic of pretty general interest (1). This experiment was made with colored people of limited reading ability. The study indicates that three ingredients make reading hard:

(a) Complex or involved sentences with many dependent clauses and prepositional phrases.

(b) Hard words—both technical and nontechnical.

(c) Abstractness or impersonal approach.

Dale says, "The way to make reading simple is to use many easy words, carefully introduce the small number of technical terms required, use simple sentences without many dependent clauses or prepositional phrases, and use a personal, concrete, anecdotal approach."

Dale measures "hard words" by means of a list of 769 easy words (2). He made this list from (a) words which are found in Thorndike's first thousand most frequently used English words (3), and (b) the first thousand words most frequently known by children

[1] Received for publication July 14, 1947.

entering the first grade (the word list of the International Kindergarten Union that registers the vocabulary of preschool children).

In 1935 W. S. Gray and Bernice E. Leary published their book *What Makes a Book Readable?* (4). In this pioneer study they review all previous work in readability research and boil down forty-four factors predicting readability to the following five:

(a) Average sentence length in words.

(b) Number of different hard words (words not included in Dale's list of 769 easy words).

(c) Percentage of different words.

(d) Number of personal pronouns (first, second, and third persons).

(e) Number of prepositional phrases.

Dr. Irving Lorge in 1939 tested the Gray-Leary Formula against the McCall-Crabbs Standard Test Lesson in Reading. This is a series of 376 passages for children that had been previously graded on the basis of ten comprehension test questions on each passage.

Dr. Lorge reduced the five-factor Gray-Leary yardstick to three elements:

(a) Average sentence length in words.

(b) Vocabulary load or number of hard words—(words not included in Dale list).

(c) Number of prepositional phrases (5).

In 1945, Dr. Lorge put out a revised readability formula with a fourth factor added, namely, a count of personal references.

Oddly enough, the formula that seems best suited for testing English writing for adults was developed by a former Viennese, now an American—Dr. Rudolf Flesch. While working in the Columbia Readability Laboratory, Flesch experimented with previous readability yardsticks and developed a statistical formula (about 1942) based on the structure of language development in general. It is a linguistic test—an equation based on the length of sentences, the number of affixes, and the number of references to people. It has nothing to do with either the nature of the subject matter or the literary value of the writing.

Flesch's sentence factor and personal reference factor are not new ideas, but his measurement of word difficulty is an innovation. Flesch believes that adults' understanding of words cannot be adequately measured by a list of words understood by children; that words in themselves may not always be difficult—but the way they are used in sentences influences reading difficulty.

Flesch's study of language structure led him to believe that length and abstractness of words were symptoms of word difficulty; the more parts there are in a word the more abstract it becomes and the harder it is to read and understand that word. One part of every word is the root. This carries the basic meaning of the word. The other parts are prefixes (beginnings) and suffixes (endings) which modify the meaning carried by the root.

To fully understand each word, we must take in all parts of that word. For instance, if we read the word "unmistakably" and fully understand what it means, we must take in all four affixes—the prefixes "un" and "mis," the suffix "ab" (contraction of able), and the adverbial ending "ly," as well as the root, "tak." Affixes are syllables, such as prefixes or suffixes, added to root words. For example, in "affix" the prefix "af" is added to root "fix"—denoting something added.

Dr. Flesch preaches the short sentence for the long; the concrete word for the abstract; the use of short root words—Anglo-Saxon words with few prefixes and suffixes; frequent references to people; and more verbs, fewer nouns, and still fewer adjectives.

Schopenhauer preached the same lesson in his "Essay on Style." The Fowler brothers, great grammarians of England, preached it but rarely practiced it. Herbert Spencer, more than a hundred years ago, expressed his opinion that Anglo-Saxon words and short sentences should be used in writing for the highest degree of "understandability." Other English scholars of the nineteenth century ventured to say that style should be measured, but we have no records of any readability yardsticks of that day.

We were interested in finding that a readability study made in 1929 by J. E. McClintock, Ohio Extension editor, indicates the following measures of reading difficulty that are similar to those of Flesch:

(a) Average sentence length.

(b) Hard words as measured by word length, abstract words, and number of non-Anglo-Saxon and non-Middle English words.

To figure your readability index by the Flesch Formula, you select random 100-word passages. In each passage you count:

(a) Average sentence length in words (measures complexity and idea density).

(b) Number of affixes in words (measures abstractness and length).

(c) Number of personal references (measures human interest).

Then you apply a mathematical formula that Dr. Flesch developed as a result of examining hundreds of passages of written English. This yardstick is described in detail in Flesch's book, *The Art of Plain Talk*, and in condensed form in government leaflet, *How Does Your Writing Read?* (7).

The Extension Service is proud to have been the proving ground of the Flesch Readability Formula. With the formula we have tested the reading difficulty of more than 1600 Extension publications from forty-eight states, Hawaii, and Puerto Rico. News of this work has travelled to many outside agencies. Government agencies, farm magazines, and commercial firms—about seventy in all—have sent in publications to our Readability Laboratory for testing.

When people ask how we measure the reading dif-

ficulty of our Extension publications with a readability yardstick, often they expect to hear about a magic formula for good writing. Unfortunately there is no button-pressing gadget that will produce a best seller. But using the Flesch Readability Formula gives us some guideposts to follow for making writing easier to read. It serves to remind us to use simple words and short sentences, and to bring in references to people whenever we can.

The formula is like a thermometer; it registers the degree of readableness or the degree of "how easy" or "how hard" writing is to read. It doesn't give us an overall diagnosis of all the factors that enter into getting our writing read. It doesn't test how well we *select*, *sift*, and *sort* our subject matter. It doesn't measure the effectiveness of layout, illustrations, size of type, or color of paper and ink. All of these factors influence readability.

A readability yardstick has limitations, like a thermometer that registers degrees of temperature. This doesn't give us an overall diagnosis of the weather—whether it's snowing, blowing, or raining. The degree of heat and the degree of cold are symptoms that give us a clue to other weather factors.

Just so, when we measure the sentence length, the word length, and the human interest of our Extension publications by the Flesch Formula, we get certain symptoms that give us a clue to the language difficulty or to the school-grade level of our writing. The formula helps us compare our readability levels with the census figures regarding educational levels of people in the United States. It helps us to compare our writing with magazines of known difficulty. For example, if a readability test rates a piece of writing "difficult," we know it is comparable to articles in the *Yale Review*—college reading level. This is the level of our reports that document a research project.[2] Technical research language on vitamin A might read:

> "Vitamin A is a fat soluble compound, the function of which is concerned with the maintenance of the epithelial structures of the body and the preservation of normal physiology in the eye. The carotenes which constitute the chief precursors of the vitamin A of normal human nutrition are formed in plants and must be converted by the body into vitamin A before it becomes available either for immediate nutritional needs or for storage in the body. Certain animal products are excellent sources of the free vitamin."

Translate that into this "easy" sixth grade passage from a USDA leaflet and we know it is comparable to magazines like *True Story*:

> "Vitamin A—in fact, all vitamins—help to protect against infection. A is one of the vitamins needed for growth and for healthy teeth, bones, and nerves. Vitamin A is important for good skin and good linings to nose, mouth, and organs throughout the body.
>
> "You get vitamin A by eating ripe yellow and green vegetables and some red-colored ones—tomatoes, for example; also from liver, butter, and eggs. Bright colors in food are often—though not always—like flags, signaling with yellow, green, orange, or red, 'This way for vitamin A.'"

Our main problem in Extension has been to translate subject matter on farming and homemaking into language simple enough to be understood by people with limited schooling—people who can't, don't, or won't read. We all suffer from mental inertia, but mental laziness is apt to be more predominant among the less-schooled. As someone has said, "Most men would rather die than think." That partly explains why many folks would rather see a movie than read a book. That partly explains why magazines like *Life*, *Ladies' Home Journal*, and *Reader's Digest* have such wide circulation; information is given in easy-to-read style and in short "takes."

People like to read what they can understand easily. Average readers find *Reader's Digest* easy to read and understand because sentences are short. They average about seventeen words. Most children in eighth grade can read sentences averaging seventeen words. *Reader's Digest* is full of human interest; there is a reference to a person in nearly every sentence. The *Reader's Digest* articles are not actually "digested"—that is, written in condensed form; they are cut. Only essential points are left. Readers don't have to dig for the facts.

We can reach the greatest number of rural people if we pitch out Extension writings somewhere between the fifth and eighth grade levels. When we write on high school and college levels we are writing for only one fourth of all rural farm adults in the United States. Three fourths of all farm adults twenty-five years of age and over have had eight grades or less of schooling.

It is startling to find how unevenly reading skill is distributed among all American people—both urban and rural. The average schooling of all adults in the United States is 8.4 years; 13.5 per cent are functionally illiterate.

We recognize that many people with little schooling are by no means lacking in common sense or intelligence. Some people are self-educated. Psychologists tell us that adults often have more desire to learn, show more interest, and have more motivation than young people do. Some adults may progress in reading ability one to two years beyond their schooling; others do not advance but actually regress in their reading ability. Studies show that some regression is due to failing eyesight or other physical infirmities that come with age.

Granted all these things, research shows there is a direct relationship between formal schooling and

[2] Articles on research in this JOURNAL invariably are written in language of the college level.

reading ability. Reading is a special skill, and intelligence is not a substitute for school training in learning how to read. For the less-schooled adults we must present adult concepts in very simple language.

READERSHIP STUDIES

We have made a few readership studies in the Extension Service that show the need for writing for less-schooled readers in short sentences and in familiar, concrete words. Some of the farm people interviewed in West Virginia did not understand "essential" and "equivalent," but they understood "necessary" and "equal." Some North Carolina homemakers were confused by the words "spiraling," "consumption," "sufficient," "specified," "maximum," and "minimum"—all good old Extension favorites. But they understood "rising," "use," "enough," "fixed," "largest," and "lowest." Some of the farm people interviewed in Louisiana did not understand such phrases as "crops for succulent grazing," "rotate poultry yards," "for fall renovation," and "reduced grain ration."

In some cases where the meaning of a particular word was not known, the readers would get the meaning if the sentence was written in a clear, simple style. For example, one woman said, "I don't believe I know exactly what 'enrich' means now. I did know, and I know if bread is 'enriched' it is better for our health."

Sometimes an emotional rather than an intellectual meaning was conveyed. For instance, a Negro said that "tyranny" in "tyranny of Hitlerism" meant "depression." He did not know the meaning of "tyranny," but from the discussion it was plain that "tyranny" was something he did not want.

In a soybean leaflet the word "protein" was not understood by many homemakers interviewed. When the interviewer described "protein" in terms of food, the women became interested in it and soon the term became a part of their vocabulary.

There are times when we have to use some technical words and hard nontechnical words that have no simpler synonyms. But they should always be explained in concrete terms familiar to the layman.

Writers in the Bureau of Human Nutrition and Home Economics show how this can be done in a recent bulletin, *Food for the Family with Young Children*, USDA Bulletin AIS-59. This is a seventh-eighth grade edition based on difficult research reports that are necessarily stuffed with nutrition terminology; such jargon as "nutritive value of 100 grams of selected foods," "edible portions," "micrograms," "milligrams," "International Units," "carotene content of foods," and "trends in nutrients."

Missing are such technical terms in the following passage that tells how homemaker "Margaret" selects and prepares food to feed her family:

> "She has learned that everyone in the family requires the same basic types of food, but the amount and the way the food is prepared may differ. For instance—
>
> "Richard, the grown man, is about average in height and weight. His needs are for foods that .... keep his body in repair and top-notch condition..... Margaret is usually able to put the same foods in his lunch box that he would have eaten at home: deviled eggs in place of creamed eggs on toast, and lettuce and carrot strips instead of vegetable salad.
>
> "Suzy, two years old, and Jim, five years old, need the same kind of food as their father, but more simply prepared. Little children's main business is growing—building strong and healthy bodies. A strong back, straight legs, sound teeth, firm muscles, resistance to infections and disease are all developed in early childhood. To provide foods especially for growth, Margaret uses milk in all the children's meals, adding a variety of vegetables and fruits, cereals, eggs, and some meat, fish, or chicken."

See how simple "nutrition" can be when put in terms of "foods" that we eat! Unfortunately the translation is not as easy to prepare as it is to read.

SIMPLIFYING WITHOUT PRIMERIZING

To prepare such simply worded leaflets, food economists of the Bureau use their knowledge of food prices and of what families in this country habitually eat. From this they work out food plans—quantities of foods that meet nutritional standards for proteins, minerals, and other body needs. Then they translate the food plans into specific market orders, in terms of loaves of bread, quarts of milk, and other foods in a weekly buying list. Lastly, writers relay all this to the layman in short sentences, concrete picture words, and words referring to people—in writing that rates about seventh grade reading level.

Even in states in which the average schooling of farm people has been found by the census to be as high as ninth grade, extension workers are finding it advisable to put out sixth to seventh grade writing to communicate their ideas to the greatest number of farm readers.

To check on how well we are writing for our readers, we compared 3000 passages tested in Extension's current bulletins with 3000 passages on similar subject matter tested in bulletins of several years ago. This is what we found: 55 per cent of the samples tested in the older bulletins were above eighth grade reading level; that is, above the level that is considered easy reading for average farm adults. Only 43 per cent of 3000 excerpts tested in revised bulletins were above eighth grade reading level. Samples tested were taken from agricultural, home economics, and 4-H Club bulletins.

On the whole, our home economics extension publications have been written in a more direct and simple style than have our agricultural materials.

Bulletins of the agricultural extension economists are more difficult than those of the extension home management specialists—partly, perhaps, because of difference in subject matter.

It is hard to write some economic and scientific material much below eighth grade level and yet be accurate, but Extension writers and others in the Department of Agriculture are demonstrating that it can be done. They are writing clearly without talking down to readers, for simplifying does not mean primerizing.

Using the Flesch Formula helps take the guesswork out of what makes writing readable. In our Extension Readability Unit we have tested many of the classics. We have found that some of the Psalms are as simple as the comics. Lincoln talked at Gettysburg in everyday words of mostly one and two syllables. Brisbane wrote his editorials in sixth grade English. Will Rogers philosophized in fifth grade homespun language, Ernie Pyle wrote in a consistent seventh grade tempo.

Extension editors appreciate the objective way the formula estimates how well they are writing for their readers. It is an unbiased measurement; it takes personal opinion out of criticism. As one editor expressed it, "It makes a grand lever for prying some of the stuffiness out of the writings of some of our people."

"It does my heart good," writes another editor, "to see you hop on words like *utilization* and *relationship* used so unnecessarily. We have worn down a lot of pencils crossing out these words for *use* and *relation*. Following your readability analysis of our 'Chinch Bug' bulletin, we succeeded in getting the bugs to *move* instead of always *migrating*, we *built* barriers instead of *constructing* them, we got rid of *sticks and leaves* instead of *debris*."

PLAIN TALK PAYS

Do we actually gain more readers when we use shorter sentences and simpler words? Recent readership studies made by magazine editors and advertisers show there is a clear relationship between readership and readability.

In a series of split-run surveys, Donald Murphy, editor of *Wallaces' Farmer* and *Iowa Homestead*, is checking on the effect of the readability level on reader response. In a survey of a 1946 spring issue, half of the subscribers were interviewed on one version written on a ninth-grade level; the other half of the subscribers were interviewed on the same subject matter pitched at sixth-seventh grade level. In both halves the subject matter, headlines, illustrations, and place in the paper were the same. Nothing was changed but the readability level. Later a similar split-run survey was made on the November, 1946 issue. Both surveys showed that the simpler versions pulled the better readership; "plain talk" increased readership from 45 to 66 per cent (8).

In a study on "Writing to the Millions" made for the Macfadden Women's Group, Dr. Flesch found that more readers read the advertisements with the following features: short sentences (about ten words); concreteness (about twenty-eight affixes per 100 words; personal style (about eight personal names, nouns, or pronouns per 100 words.)

The advertisements that most people read "talk" *to* or *about* people in short sentences with many root words and live verbs. They are written in "plain talk," in simple language that is down to earth where we find people. That's a good formula for readable writing—writing that is easier to read than to skip.

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The Dietary History as a Tool in Research[1]

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NUTRITION is now recognized as such an important factor in growth and development and in maintenance of health that criteria to evaluate nutritional status with practical accuracy are of great public health importance. In any attempt at such an evaluation, several methods may be employed:

(a) A careful and detailed appraisal of the physical health and general well-being, including observations of actual clinical signs and symptoms of deficiency, is of primary importance. During all periods of growth, such as pregnancy, infancy, childhood, and adolescence, the progress of growth and development must also be carefully reviewed.

(b) Various laboratory techniques have been and are being developed which aid in determining the state of the internal environment. Some of these reflect the individual's immediate dietary background; others are determined by the nutritional background over a considerable period of time and by other internal and external factors.

(c) A detailed history of the dietary habits furnishes important information, since the nutritional status of an individual can be no better than his past and present food habits permit. However, the nutritional status may be considerably worse, since, for various reasons, an individual may be unable to utilize normally the food he eats.

These three avenues of approach are all of value in obtaining a true picture of an individual's nutritional state, and each should be used in conjunction with the others in nutritional research studies, where such an evaluation is attempted. The doctor, biochemist, and the nutritionist working together will, if they are keen observers, be able to contribute valuable information to an understanding of nutritional requirements and their relationships to growth and development and physical well-being. The material in these various fields should be carefully and independently collected and evaluated and the findings then compared. In this way material collected in each field serves to check data obtained in another field, and any relationships found to exist can be relied upon with much more confidence than when laboratory values, findings of dietary histories, or clinical signs alone point to a deficiency of a particular nutrient.

Since any dietary history cannot be exact, there has been a tendency to discredit it as a worth-while procedure in research. In many instances this criticism has been and is justified. However, a dietary history properly taken for research purposes serves a very useful purpose and is of greater value than is generally appreciated. Its merits and pitfalls must be thoroughly understood, however, if it is to furnish as reliable information as possible. In evaluating the data obtained, its limitations must be appreciated so that the resulting evaluations are not used beyond the limits of their dependability.

The most accurate method of studying the food intake of an individual is by means of balance studies. This method has the distinct advantage of giving a chemically quantitative estimate of both the food consumed and the corresponding urinary and fecal outputs. Balance studies are, however, very time-consuming and costly. They are impractical for use in mass studies of nutritional status since they can be carried out on only a relatively few individuals and for relatively short periods of time. The subjects studied must live under very carefully controlled conditions in order that their total daily intake and output may be completely measured, and there is always the question of how much this may have altered their usual habits despite the fact that every attempt has been made to allow them a free choice. While this is permissible in certain special studies, it is not a practical method which lends itself to a study of effects under conditions of everyday living.

Another method of obtaining an accurate record of dietary intake is to weigh the food eaten at each meal. The most accurate way to accomplish this is to have the subject eat under controlled conditions. The food served to each individual is weighed, anything left unconsumed is also weighed, and an aliquot sample of the food eaten is analyzed.

[1] Received for publication July 7, 1947.

A considerably less accurate method, but one sometimes used to check the weight of portions consumed is to give each individual scales with which to weigh all food eaten. Again, both methods have the disadvantage of creating an artificial situation, so that the persons studied may not eat as they normally do. Unless the subjects in the first instance are under control 24 hr. each day, there is no positive check on what other food may have been eaten, in which case the intake record may be incomplete. In the simpler but still less accurate method, it should be realized that few individuals are sufficiently cooperative to carry out the weighing of all their food over any extended period of time, and short periods are of little value.

A very important consideration which has received little attention and argues strongly for the use of the dietary history in studies attempting to evaluate nutritional status is the fact that clinical signs and symptoms of deficiency, alterations in patterns of growth, physical health, endurance, efficiency, frequency of illness and the like, if related to the dietary intake of an individual, may reflect either or both of the following: the *average* dietary intake of the individual for the period under consideration, and/or the nutritional status of the individual just prior to the period considered, which in itself may reflect to a high degree the previous long-time food habits. If this is the case, it is the average dietary intake over a considerable period which is of interest for correlation with clinical and laboratory findings. This can be obtained only by the dietary history method.

TYPE OF DIETARY HISTORY NEEDED IN RESEARCH

The dietary history taken for research is for the purpose of comparing the average food intake of an essential nutrient or the average level of the diet as a whole with certain clinical and laboratory findings and with progress in growth where that is a factor. To do this, the dietary data obtained must be used relatively; that is, they must enable one to compare each individual's food intake with every other intake in the series just as one must compare relatively the physical health, rate of growth, or laboratory findings of any given individual with every other. This indicates that a much more detailed and accurate dietary history is necessary than is needed for corrective teaching. The type of history used as a practical tool in corrective clinical work never should be used for research purposes, unless it was originally taken with that purpose in mind and all safeguards observed to insure its accuracy. The taking of dietary histories for research purposes is time-consuming, and in the busy clinic where the primary concern is to discover possible inadequacies in diet which may relate to the patient's condition and require correction, time does not permit of sufficient detail.

QUALIFICATIONS FOR SUCCESS IN THE TAKING OF DIETARY HISTORIES FOR RESEARCH

The ideal person to take dietary histories in research is the nutritionist with special training for that purpose. To succeed in this type of history-taking, she needs to have an alert and inquiring mind, accuracy for detail, and keen powers of observation. She must have sound basic training in nutrition and the allied sciences. She also needs to be familiar, in a thoroughly practical manner, with food values and with the eating habits of the groups with which she is to work. Ability to give due consideration to economic and social background, food customs, and the like is also important. Without an appreciation of these factors, and many more which come with experience and maturity of judgment, the interviewer will not obtain the accurate background information which this type of history must include. Along with a pleasing personality, this ability and understanding are of primary importance in order to gain the confidence and cooperation of the subject. Sufficient time must be allowed so that the interview is unhurried, and considerable tact must be used.

With a practical understanding of food values and eating habits, it should be possible to conduct the interview in such a manner as not to suggest an answer. This is extremely important to the accuracy of the history. It is also essential that the subject understands that he is one of a study group and that his full cooperation is a valuable contribution to the project. The interview, then, is more likely to be successful, for the subject is aware of the interviewer's interest in him and his problems and tries to cooperate to the full extent of his ability. In taking dietary histories for research purposes, no attempt should be made to complete a history if it becomes obvious as the interview proceeds that the subject does not know his usual eating habits and that any data obtained would be of doubtful value.

METHODS USED IN TAKING RESEARCH DIETARY HISTORIES

The dietary history forms used in prenatal studies carried on by the Department of Maternal and Child Health at the Boston Lying-In Hospital are shown in Figures 1, 2, 3, and 4. The methods employed in the taking of such a history are discussed as an illustration of the points we consider essential if dietary histories are to be of value in research. Similar forms and techniques are used in obtaining dietary histories at regular intervals on the children enrolled by this Department for longitudinal studies of growth and development. These children are under periodic examination while living normal lives at home.

It should be unnecessary to say that a dietary history representing the food intake for any 24-hr. period or even any given week may and often does give a very erroneous picture if it is used as the only

representative of a subject's usual or average intake. Such information is worthless for purposes of research and of little value even in corrective clinic work. The dietary data which are of value both in research and corrective clinic work permit estimation of the *average* intake for a given period of time. In research this *must* be known as accurately as possible. How, then, is it possible to obtain this information and, as the history is taken, what checks can be used so that the relative reliability of the history may be judged?

As a background to the more specific questions relative to actual food intake, certain information is obtained first in regard to the subject's health habits and other factors which relate to nutrition. These data are recorded for each period under consideration (Fig. 1). While soliciting this information the nutritionist learns a considerable amount about the subject's way of living, economic status, eating habits, and the like, which should prove extremely helpful in eliciting further and more specific data.

The nutritionist then attempts to learn the subject's usual pattern of eating, both at meal times and between meals, and the food consumed is recorded in common household measures (Fig. 1, lower part). For example, the subject is asked "What do you usually eat for breakfast?" or, "What did you have for breakfast this morning?" In either case, the subject tells about her breakfast habits, and further questions follow until the breakfast is completely recorded in common household measures including the usual variations. For example, the subject may take orange juice (4 oz.) three or four times each week and on the other days have no fruit or substitute tomato, grapefruit, or some other fruit juice, or a serving of fresh or canned fruit. She may state that she usually has cooked cereal of certain kinds approximately so many times each week in the winter and that in the summer she eats dry cereal instead. The frequency and usual size of portions, as well as the kinds of foods, are all recorded. It is also necessary to know what is used on the cereal, if anything, and the amount. The interview continues in this manner until a complete record has been made of the usual daily food intake for the period under consideration with its variations carefully recorded in kinds and amounts of food. If, for example, during pregnancy the diet is changed from the normal, it is most important to record these differences and as nearly as possible the period of their duration in relation to the pregnancy. Additional forms, such as just described (Fig. 1, lower part) are used for this.

The next step in the history, known as the "cross check," is very important. The form used for carrying out this procedure is shown (Fig. 2). The nutritionist has before her the usual intake for a given period. By looking at it, or from familiarity with history-taking, she remembers the amount of

PRENATAL NUTRITION HISTORY
Form Prepared by
Department of Maternal and Child Health
Harvard School of Public Health

Name _____ Hospital Number _____
Study Number _____ Date _____

Health Habits and Other Factors Relating to Nutrition

	Previous to Pregnancy	First Trimester	Second Trimester	Third Trimester
Meals/Day				
Appetite				
Food Dislikes				
Frequency Nausea				
Frequency Vomiting				
Vitamin Concentrates				
Other Nut. Concentrates				
Bowels: Regularity				
Bowels: Laxative (Kind and Freq.)				
Sleep: Hours				
Sleep: Sound or Disturbed				
Day Rest: Hours				
Day Rest: Sleep				
Outdoor Exercise				
Work: Kind				
Work: Hours				
Cigarettes No./Day				
No. Persons Living in Family				
Income				
Number of Rooms				
Other Factors				

Food Intake (Pattern of eating previous to pregnancy and usual variations)

Breakfast ___ a.m.	Amt.	Noon Meal ___ p.m.	Amt.	Evening Meal ___ p.m.	Amt.

FIG. 1. *Form used in obtaining information regarding subject's health habits and other factors which relate to nutrition, as well as average food intake.*

PRENATAL NUTRITION HISTORY
Form Prepared by
Department of Maternal and Child Health
Harvard School of Public Health

Name _____ Hospital Number _____
Study Number _____ Date _____

Average Intake (Amount and Frequency)	Previous to Pregnancy	First Trimester	Second Trimester	Third Trimester
Milk (all forms)				
Cheese				
Meat, Fish, Liver, Poultry				
Prepared Meats, etc.				
Eggs				
Fruit: Citrus, Tomatoes, etc.				
Fruit: Dried				
Fruit: Others				
Vegetables: Dk. Gr. Leafy or Deep Yellow				
Vegetables: Legumes				
Vegetables: Potato				
Vegetables: Others - Raw				
Vegetables: Others - Cooked				
Cereals: Whole Grain or Enriched				
Cereals: White				
Bread, Whole Grain or Enriched				
Macaroni, Rice, etc.				
Crackers				
Cookies				
Butter or Oleo				
Other Fats				
Nuts and Peanut Butter				
Puddings				
Pie				
Cake, Doughnuts, etc.				
Ice Cream				
Candy and Other Sweets				
Jam, Jelly, etc.				
Sugar				
Syrup				
Molasses				
Salt				
Soup				
Beverages: Tea and Coffee				
Beverages: Cocoa or Chocolate Syrup				
Beverages: Soft Drinks				
Beverages: Beer, Wine and Alcohol				
Beverages: Water				

FIG. 2. *Form used in cross checking information obtained by interview regarding food intake. This is second sheet of form shown in Fig. 1.*

milk, let us say, in the usual intake. She then may ask the subject, "Do you like or dislike milk?" The subject may answer, "I dislike it," or "I like it." The nutritionist then asks further questions, depending upon the information already obtained, as to the subject's usual daily intake of milk. In other words, this serves to verify and clarify the information given in the usual intake. By careful questioning as to each food group listed (Fig. 2) in relation to the amount given as usual in the intake for the period, the accuracy of the history is greatly improved. The final result obtained is, as a rule, a surprisingly representative picture of the individual's average intake for the interval.

The interview consumes approximately an hour. It may take a somewhat longer or shorter time depending upon the ease with which the subject can tell the nutritionist about her eating habits. As a further measure of safety in our published prenatal studies, we have used the form presented below. The subject fills out three of these forms thus giving a record of food intake for three consecutive days (preferably not Sunday) in the interval under consideration. A seven-day record undoubtedly would be preferable, but we were unsuccessful in obtaining this length of record from our subjects. A similar form is used in relation to the dietary histories obtained on the children in our growth study and has been published in an earlier report (1). This form (Fig. 3 and 4), while not suggesting what should be eaten, helps the subject to record quite completely the food eaten on any given day and obtains much more reliable information that the customary blank on which the subject merely records under the appropriate heading of "Breakfast," "Noon Meal," "Night Meal," and "Between Meals" the food eaten for the day. We have come to believe, however, that this record is the least valuable part of the dietary history and at best represents only an additional means of checking the usual intake for a given interval. It also may be a dangerous procedure unless the nutritionist goes over these records carefully with the subject, for the size of the portions may be inaccurately recorded, and even with a form designed to overcome omissions, the records may be incomplete.

HARVARD SCHOOL OF PUBLIC HEALTH

SPECIAL PRENATAL STUDY

221 LONGWOOD AVENUE, BOSTON, MASSACHUSETTS

One Complete Day's Record of Food Eaten

Directions:

Orange juice or *fruit:* State number of oranges and size used.

Other fruit: State kind, number or size of serving (1 small sauce dish = ½ measuring cup, 4 rounding tbsps.* = ½ cup, 16 level tbsps. = 1 cup).

Cereal: State amount as rounding tbsps. or in terms of measuring cup.

Bread: State number of slices, and if purchased as sliced bread. If not, state thickness as ¼ or ½ inch or whatever it is.

Butter: Record as level tsps. (1 pat = 1 level tsp.†).

Egg: Check as to whether whole egg or yolk only.

Bacon: Number of slices—indicate whether long (full length) slices or ½ slices.

Milk: Amount on cereal—state in terms of measuring cup. If top milk or cream used, cross out milk. State cream light, medium, or heavy. Cup refers to measuring cup. *1 ordinary drinking glass = ¾ cup.* 1 tall glass (iced tea glass) = 1¼ cup. Where it states milk or cream, cross out one not used.

Sugar: Give as level tsps.

Other foods: Record as accurately as possible in ordinary household measures any foods eaten not listed.

Meat or Fish:
1 small serving meat or fish = 1 oz. = 2 tbsps.
1 average serving meat or fish = 3 oz.
1 large serving meat or fish = 4 oz.

Vegetables: Record in rounding tbsps.
(1 ordinary small saucer of vegetables = ½ cup = 4 rounding tbsps.)

Dessert:
Average serving = ½ cup.
Milk or sauce, etc., added should be recorded and amount stated.

* Tablespoon = tbsp. † Teaspoon = tsp.

Name ..... **Date** .....

Address .....

Read directions carefully before filling out the following:

Breakfast: **Time** ..... **a. m.**

Orange ..... Amount. Other fruit ..... Amount .....

Cereal—Kind ..... Amount .....

Bread—Kind ..... { No. slices ..... / Thickness ..... inch } Toasted { Yes / No }

Butter—Amount ..... tsps.

Egg ..... No. whole egg or yolk. How cooked .....

Bacon ..... No. of slices. Sugar on cereal ..... tsps.

Milk ..... Amount on cereal. Milk to drink ..... cups

Cocoa ..... cups. Other beverage ..... cups

Is cocoa made with milk? ..... If not, what part milk? .....

Sugar in cocoa or other beverage ..... tsps.

Milk or cream added to cocoa or other beverage ..... tbsps.

Other foods eaten ..... Amounts .....

..... Amounts .....

Between Breakfast and Noon Meal: **Time** ..... **a. m.**

Foods eaten ..... Amounts .....

..... Amounts .....

(Include ice cream, candy, sodas, etc.)

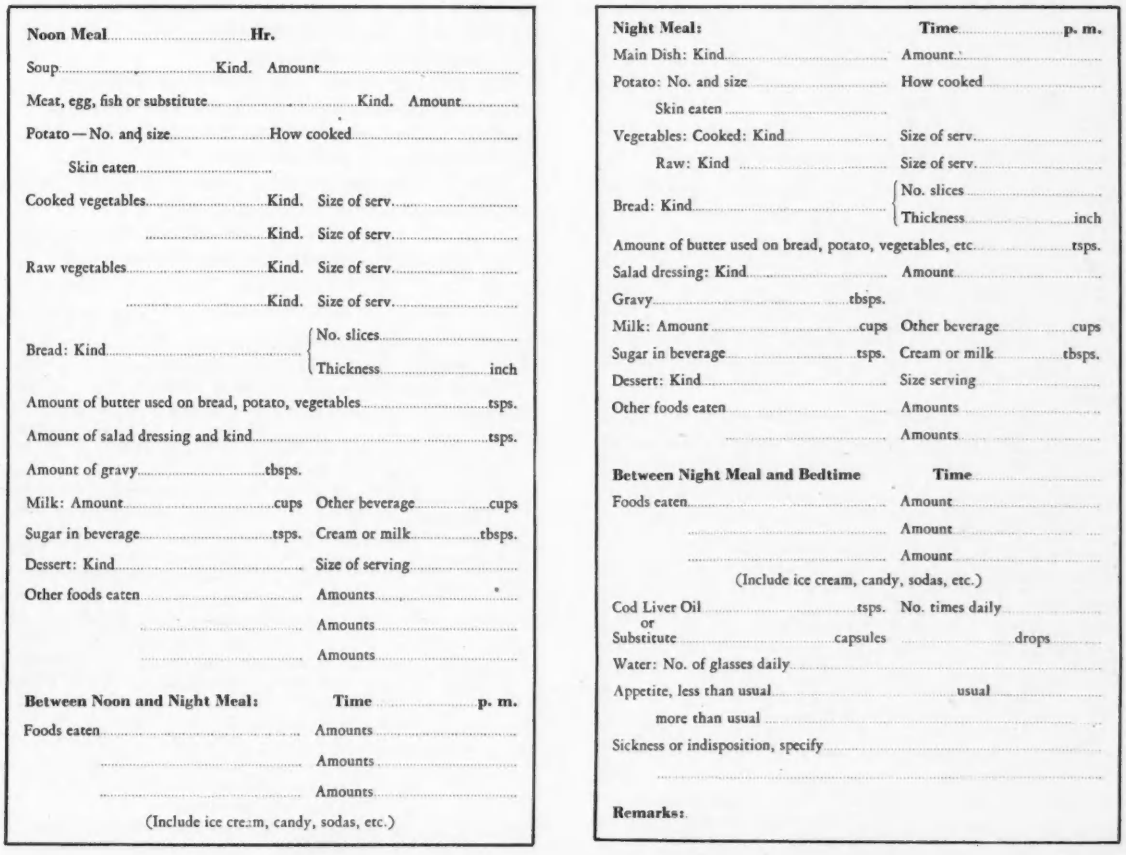
FIG. 3. *First and second pages of four-page form which is filled out by the subject on three consecutive days.*

CALCULATION AND EVALUATION OF RESEARCH DIETARY HISTORIES

The nutritionist then studies the history she has taken for the interval under consideration and records for calculation the average intake (amount and frequency) for that period.

From a consideration of the usual intake and the information obtained in the cross check, the amount of each food or food group which is most representative of the subject's average intake is used. The nutrients of this average intake are then calculated from representative food value tables for each interval studied. A condensed table is used which was devised to save time in calculation and to insure the use of like values under like conditions. Thus the average amount of each nutrient consumed over a given period is represented by a calculated figure recorded in calories, grams, milligrams, or International Units. Because these figures give an unjustified impression of the accuracy of the data, it has been necessary to use a rating scale.

In evaluating the diets for the last two trimesters of pregnancy in our published prenatal studies (2), comparisons were made with an arbitrary set of standards selected as representing an optimum intake of each nutrient. These values approximate the values later recommended by the Food and Nutrition Board of the National Research Council (3). No nutrient was called "excellent" unless it met or exceeded this optimum standard. Our rating scale is shown in Table 1. Each nutrient was rated "excellent," "good," "fair," "poor," or "very poor" according to the range in which the calculated value of the average intake fell. The calories in excess of 2800 in our published prenatal study were termed "excessive" and those below 2200 "inadequate." Between these ranges the caloric intake was assumed to be within a normal or adequate range. In our present prenatal studies, a similar rating scale has been developed for evaluating the diet during the first trimester of pregnancy and the normal food intake previous to pregnancy. In this scale the dietary values recommended by the Food and Nutrition Board of the National Research Council for the normal woman (3) represent the standard and are called "excellent." An additional form on which the final



Noon Meal ..... **Hr.**

Soup ..... Kind. Amount .....

Meat, egg, fish or substitute ..... Kind. Amount .....

Potato — No. and size ..... How cooked .....

Skin eaten .....

Cooked vegetables ..... Kind. Size of serv. .....

..... Kind. Size of serv. .....

Raw vegetables ..... Kind. Size of serv. .....

..... Kind. Size of serv. .....

Bread: Kind ..... { No. slices ..... / Thickness ..... inch

Amount of butter used on bread, potato, vegetables ..... tsps.

Amount of salad dressing and kind ..... tsps.

Amount of gravy ..... tbsps.

Milk: Amount ..... cups Other beverage ..... cups

Sugar in beverage ..... tsps. Cream or milk ..... tbsps.

Dessert: Kind ..... Size of serving .....

Other foods eaten ..... Amounts .....

..... Amounts .....

..... Amounts .....

Between Noon and Night Meal: **Time** ..... **p. m.**

Foods eaten ..... Amounts .....

..... Amounts .....

..... Amounts .....

(Include ice cream, candy, sodas, etc.)

Night Meal: **Time** ..... **p. m.**

Main Dish: Kind ..... Amount .....

Potato: No. and size ..... How cooked .....

Skin eaten .....

Vegetables: Cooked: Kind ..... Size of serv. .....

Raw: Kind ..... Size of serv. .....

Bread: Kind ..... { No. slices ..... / Thickness ..... inch

Amount of butter used on bread, potato, vegetables, etc. ..... tsps.

Salad dressing: Kind ..... Amount .....

Gravy ..... tbsps.

Milk: Amount ..... cups Other beverage ..... cups

Sugar in beverage ..... tsps. Cream or milk ..... tbsps.

Dessert: Kind ..... Size serving .....

Other foods eaten ..... Amounts .....

..... Amounts .....

Between Night Meal and Bedtime **Time** .....

Foods eaten ..... Amount .....

..... Amount .....

..... Amount .....

(Include ice cream, candy, sodas, etc.)

Cod Liver Oil ..... tsps. No. times daily .....

or

Substitute ..... capsules ..... drops .....

Water: No. of glasses daily .....

Appetite, less than usual ..... usual .....

more than usual .....

Sickness or indisposition, specify .....

.....

Remarks:

FIG. 4. *Third and fourth pages of four-page form which is filled out by the subject.*

TABLE 1

*Nutritional standards used in rating dietary intakes during pregnancy (fourth through ninth months)**

NUTRITIONAL ESSENTIALS	EXCELLENT	GOOD	FAIR	POOR	VERY POOR
Protein, *gm.*	85 or more	70–84	55–69	45–54	Under 45
Calcium, *gm.*	1.5	Under 1.5–1.0	Under 1.0–.75	Under .75–.6	Under .6
Phosphorus, *mg.*	2.0	The same rating was given phosphorus in each case as was assigned to protein.			
Iron, *mg.*	20	Under 20–16	Under 16–12	Under 12–10	Under 10
Vitamin A, *I.U.*	8000	Under 8000–6000	Under 6000–4000	Under 4000–2000	Under 2000
Thiamine, *mg.*	2.0	Under 2.0–1.0	Under 1.0 to above .5	Under .5–.3	Under .3
Riboflavin, *mg.*	2.5	Under 2.5–2.0	Under 2.0–1.5	Under 1.5–1.2	Under 1.2
Niacin, *mg.*	18	No attempt was made to rate niacin.			
Ascorbic acid, *mg.*	100	Under 100–75	Under 75–50	Under 50–35	Under 35
Vitamin D, *I.U.*	400–800	These were used merely as "excellent" with added D and "poor" without added D.			

* Courtesy of Journal of Nutrition (2).

dietary evaluations for comparative purposes are recorded is not shown. Rating scales also have been developed for evaluating the diets of the children included in our growth study.

The mean general dietary rating used in our published prenatal study as representative of each diet during the major portion of pregnancy was obtained in the following manner. Numerical values were assigned to the ratings given each nutritional essential as follows: "excellent," 4; "good," 3; "fair," 2; "poor," 1; and "very poor," 0. The average caloric intake was also evaluated numerically. These numerical ratings were averaged and the resulting value reconverted to the terminology which it represented.

This method of placing each subject in the range within which the calculated dietary value falls is done with the hope that in the majority of instances this range is sufficiently wide to absorb the inaccuracies of the dietary history. This method serves to place the subject in the correct relative position to the other subjects in the study in relation to a specific nutrient. The same holds true to an even greater extent with the mean general dietary ratings used in our published prenatal study, since ten nutritional ratings were used to obtain the mean rating assigned to the average intake. This procedure allows each case to be related to every other case in the study in respect to the dietary ratings. If the set of standards used is too high or too low, it makes no difference in the results obtained when these ratings are used for comparative purposes with laboratory or clinical data which have also been graded relatively. The reason for this is that, with an entirely different set of standards, each case would occupy the same relative position in the series.

The ways in which such evaluations of a dietary history of this nature for a given interval may be used in conjunction with clinical and laboratory data are shown in our published prenatal studies (2, 4, 5, 6). The reading of these published reports will, it is hoped, give a further appreciation of the use and value of this type of dietary history in studies concerned with the evaluation of nutritional status.

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The Rationale and Administration of Low-Sodium Diets[1]

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THE ADULT human male organism contains about 50 liters of water in which a number of inorganic and organic substances are dissolved. Most of this fluid is within the cells, but about 15 liters of it is extracellular. These two fluids differ widely in composition, even though the barriers that separate them are freely permeable to water. A change in concentration in either compartment is quickly followed by a flow of water from the more dilute to the more concentrated region until isotonicity is re-established.[2] In spite of the ebb and flow of water between the cells and their surrounding watery medium, the specific inorganic composition of these fluids remains fixed. This is the more remarkable when it is realized that sodium which is the most plentiful ion in the extracellular fluid is absent from the fluid within the cells.

The extracellular fluid is the medium in which the cells live, and their healthy existence is dependent upon the fixed composition of this solution which protects them from the vicissitudes of the external environment. In the case of large organisms, part of this fluid must flow rapidly in order to promote quick exchanges between the cells and the remote external world. This portion is the fluid of the blood: the blood plasma is, in fact, extracellular fluid containing about 7 per cent of proteins.

Fixity of composition of the extracellular fluid has been stressed even though it is well known that the concentration of some of its organic constituents, such as glucose and urea, varies considerably. This seeming paradox is resolved by recognizing that one is dealing with a fundamental solution of fixed composition which is in a secondary sense a vehicle for the transport of a group of adventitious substances being carried to or away from the cells.

The entities that display fixity of concentration are the basic and acidic ions. Sodium accounts for 90 per cent of the bases and chlorine for about 70 per cent of the acids. Hence the character of the fluid is almost entirely dependent upon the presence of these two elements, especially the former.

The two portions of the extracellular fluid—the intravascular and the interstitial—are in contact across the vast expanse of the walls of the blood capillaries which are completely permeable to water and to all the constituents of the extracellular fluid; but they are impermeable to the plasma proteins.

Since the proteins do not traverse the walls of the capillaries, they produce an intracapillary osmotic force that causes a flow of interstitial fluid into the capillaries. This force is proportional to the concentration of the protein. It is opposed by the capillary blood pressure, and when the two are equal, the flow ceases. However, the blood pressure is greater at the arterial end of the capillary than the osmotic pressure and less at the venous end. This results in an outflow of extracellular fluid from the capillary into the surrounding space while the blood pressure is greater than the osmotic pressure and a flow in the opposite direction when the pressure relations are reversed. Thus a circulation of extracellular constituents between the relatively stationary interstitial fluid and the rapidly moving plasma is provided.[3]

Of more immediate interest is the distribution of the extracellular fluid between these two compartments. In health, the forces are such that about one fourth of the fluid is within the blood vessels and the remainder is dispersed through the interstitial spaces. In certain diseases, for example, hemorrhagic nephritis, the albumin of the plasma may be greatly diminished in amount and when this occurs, there is a proportional fall of the intracapillary osmotic pressure. Under these circumstances less than the normal amount of extracellular fluid will return to the blood from the surrounding spaces,

[1] Received for publication September 20, 1947.

[2] This statement is only approximately correct, since it has made no allowance for the Donnan equilibrium.

[3] A more comprehensive description of the extracellular fluid may be found in Newburgh, Johnston, and Newburgh (1).

and therefore the interstitial fluid will become excessive in amount. This is the change which, when sufficiently great, is recognized clinically as edema. This abnormality is simply an excess of extracellular fluid in the interstitial spaces. Its composition continues to be normal.

In heart disease, the concentration of the plasma proteins is not altered but the venous pressure may become greatly elevated followed by an increased outflow from the capillaries into the interstitial spaces, whereas the return flow continues at the normal rate. This results likewise in excessive amounts of extracellular fluid in the interstitial spaces and is the basis for the second common type of edema.

It must be clearly understood that the type of edema under discussion always consists of extracellular fluid of normal composition. Since it continues to contain 3.3 gm. of sodium per liter, an increase in the quantity of this fluid necessitates an addition of sodium to the body.

The body content of sodium is held within narrow limits, in health, by the regulatory activity of the kidneys. These organs consist of two functional units: the glomeruli, which are filters, and the tubules whose cells change the composition of the filtrate. Each 24 hr. about 180 liters of protein-free plasma pass through the walls of the glomerular capillaries and enter the renal tubules. As it flows through them, most of the water is re-absorbed; waste products are retained in the tubular fluid and excreted in the urine; and useful substances are returned to the blood in appropriate amounts. The inorganic ions are re-absorbed in amounts that will maintain a nearly constant quantity of each in the body. The amount of sodium in the urine rises and falls with the amount ingested; that is, the organism remains in sodium balance.

When edema is forming, the urine contains less sodium than the diet, and the difference may be used as a measure of the abnormal accumulation of water on the basis of 1 liter of additional edema fluid per 3.3 gm. of retained sodium. If no sodium is ingested, edema cannot increase, because no addition to body sodium can take place. Since all foods contain some sodium, the patient would have to fast in order to avoid completely the intake of sodium. But such a radical restriction is not necessary for the following reasons. There is always a loss of sodium from the skin and in the feces. Even in the absence of perspiration, this amounts to about 200 mg. daily. Hence, with a diet containing 200 mg. of sodium and urine entirely free of sodium due to complete re-absorption of it, no increase in body sodium could occur, and therefore no additional edema would form. But reduction of urinary sodium to minimal values requires fully normal re-absorptive capacity on the part of the renal tubule cells. In nephritis this capacity is reduced. The urinary sodium cannot be brought to the very small amounts attainable in health under similar circumstances. Hence in the nephritic patient with edema due to low plasma proteins, a diet containing 200 mg. of sodium will not permit the patient to get into sodium balance. There will be a slow drainage of sodium from the body and with ~~it a proportional~~ loss of water, since the concentration of sodium in the extracellular fluid will be held at its normal value.

At an earlier period it was customary to restrict the intake of water in the treatment of edema, since there was too much water in the body. But no increase in body water will take place unless additional sodium is being retained. Since this does not occur in patients on low-sodium diets, restriction of fluids serves no good purpose, but on the contrary increases the patient's discomforts. He should always be instructed to satisfy his thirst at the very least. A further gain is made by giving him sufficient fluids to produce about 2 liters of urine per 24 hr., since it has been shown that less work is performed by the kidneys at this volume of urine than when it is either 1 or 3 liters.

After the edema has disappeared, sharp restriction of dietary sodium must be continued to avoid re-accumulation of the excessive fluid until the conditions that caused it originally have disappeared. This restriction, however, need not be as drastic as that in the earlier period when it was desired to effect an actual loss of body sodium. Now the purpose is to prevent addition of it. The ability to re-absorb sodium will be diminished in proportion to the functional derangement of the kidneys. For example, if a patient on a diet containing 200 mg. of sodium cannot reduce the urinary sodium to less than 500 mg. per 24 hr., one would predict that he could ingest about 750 mg. of sodium (roughly 2 gm. of sodium chloride) daily without becoming edematous. This is presumably the reason why the older "salt poor" diets which contained about this amount of sodium were so useful in the management of edema.

In order to determine precisely how much sodium might be ingested by a given patient without return of edema, it would be necessary to measure the excretion of sodium by the skin, in the feces, and in the urine. This is far too laborious an undertaking for clinical practice. Even if it is assumed that 200 mg. of sodium are removed by the skin and feces, the determination of urinary sodium alone is, for the present, too time-consuming and meticulous to be done routinely. The only practical procedure up to the present time is one of trial and error. Granted that edema has disappeared on the 200 mg. diet, the latter is now increased by 200 mg. of sodium and full maintenance calories are assured. If the patient who is being weighed accurately has gained no weight at the end of a week, another 200 mg. of sodium are added to the diet. One proceeds in this manner until the desired information is obtained.

The urinary excretion of sodium may be increased greatly by administration of substances that yield strongly acid ions. Ammonium chloride is the compound most frequently employed for this purpose. Large urinary losses of sodium are brought about also by administration of the mercurial diuretics, but little effect upon the edema will be observed unless the intake of sodium is quite small. Otherwise, the dietary sodium will replace that lost in the urine.

Low-sodium diets are employed in the treatment of hypertension. The undoubted beneficial effect cannot, however, be attributed to reduction in the amount of extracellular fluid. Since it is not known why restriction of sodium relieves hypertension, no discussion of this situation will be attempted.

Figure 1 illustrates some of these phenomena. The patient had entered the hospital some weeks previously suffering from typical far-advanced chronic nephritis. He presented massive generalized edema which had existed for a number of months. The plasma albumin was reduced to 1.8 gm. per 100 cc. (normal approximately 4.5 gm.). The blood pressure was not elevated. The patient was placed on a diet containing 800 mg. of sodium, and ammonium chloride was administered until the edema had disappeared. The continuation of the same low-salt diet without ammonium chloride or any other medication was then sufficient to prevent recurrence of edema. The first five days charted in Figure 1 show this satisfactory condition. The administration of 10 gm. of sodium chloride on the sixth, seventh, and eighth days resulted in a nearly

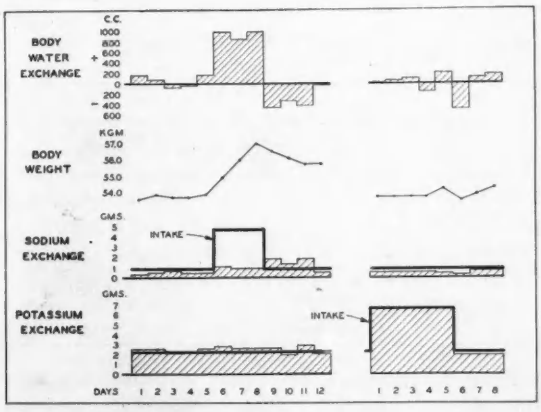

FIG. 1. *Body water, sodium, and potassium exchanges as charted for one patient with far-advanced chronic nephritis.*

The zero line in top graphs indicates perfect water balance. Shaded areas above this line indicate increases in total body water. Net losses of body water are indicated by hatched areas below the line.

Heavy solid line in two lower graphs indicates dietary intake of sodium or potassium. The shaded areas show the sum of the fecal and urinary excretion of each. The loss through the skin was not measured, but for sodium the excretion by this route may be assumed to be about 150 mg. per 24 hr.

complete retention of the additional sodium, and this was accompanied by a proportional increase in body water and body weight. The return to the low-salt diet resulted in a urinary excretion of sodium that was greater than the intake, and this negative balance was accompanied by the loss of about one third of the water retained during the preceding high-salt days. The potassium exchange was unaffected by these shifts in body water.

Some days later when the patient had become edema free again and while he was still receiving the same low-salt diet, the potassium intake was increased for five days by the daily addition of 8 gm. of potassium chloride. It will be seen that the extra potassium was excreted completely from the first day and that the sodium exchange was unaffected. This comparison between sodium and potassium shows that the former is the determining substance in the production of edema, and that potassium has no such effect.

The low-sodium diet was devised to reduce dietary intake of sodium to as low a level as practical with a sufficient allowance of food for maintenance of normal body weight.

No foods are absolutely sodium free. Accordingly, when a very low-sodium diet is being planned, it is necessary to omit certain foods entirely and to restrict others to varying degrees. Obviously, table salt, baking powder, and baking soda must be strictly avoided. Those foods whose sodium content in the natural state is low are emphasized. In the preparation of the diet it is important to weigh or measure carefully the various foods prescribed in order to assure the low level of sodium in the diet.

A diet that contains approximately 200 mg. of sodium[4] can be prepared from the foods listed in Table 1.

The diet, without the butter and white sugar, contains approximately 1300 calories. Since these foods contain only negligible quantities of sodium, they should be added in amounts to obtain the desired calories for the day's diet. The amounts of these substances that can be included from a practical point of view are limited. It is not feasible to include more than 8 tbsp. of butter and 4 tbsp. of white sugar. If this amount is included, the diet will contain 2500 calories.

It will be noted in Table 1 that milk is not included in this very low-sodium diet due to its high-sodium content. Milk contains 50 mg. of sodium per 100 cc. Therefore, one glass of milk would contain 100 mg. of sodium. Recently, a specially prepared low-sodium milk[5], containing a negligible amount of sodium and with a composition of other nutrients similar to whole milk, has been used.

[4] Two hundred mg. of sodium are equivalent to 510 mg. of sodium chloride.

[5] "Lonalac," manufactured by Mead Johnson and Company.

The meats included in this dietary plan contain 70 to 100 mg. of sodium per 100 gm. It can readily be seen that an increase in the amount of meat used would greatly augment the sodium content of the diet.

One egg is allowed per day. Eggs cannot be used as a protein substitute for meat due to their relatively high-sodium content.

Bread used in this diet is yeast bread prepared without salt. Commercially prepared bread is not used because it contains approximately 100 mg. of sodium per average slice.

Vegetables and fruits are relatively low sources of sodium. The 200-mg. sodium diet includes almost all fruits and vegetables commonly used in the American diet, with the exception of some dried fruits and vegetables. The vegetables included in this diet plan contain 1 to 10 mg. of sodium per 100 gm. Commercially canned vegetables cannot be used due to the salt that has been added in preparation.

The fruits included contain 1 to 5 mg. of sodium per 100 gm.

The nuts (unsalted) are included for their contribution of protein.

TABLE 1*

*Daily diet containing approximately 200 mg. of sodium***

FOOD GROUPS	FOODS ALLOWED			QUANTITY
Beverages	Clear coffee Kool Aid Clear tea			As desired
Bread	Yeast bread made without salt			3 slices
Cereals	Any cooked, unsalted cereal; macaroni or spaghetti may be substituted for 1 slice of bread			½ cup
Fat	Any unsalted fat			As desired
Fruits	Apples Apricots Bananas Blackberries Cherries Cranberries Gooseberries	Grapefruit Grapes Lemons Mulberries Oranges Peaches Pears Pineapple	Plums Prunes (fresh or stewed, 3–4) Raspberries Rhubarb Strawberries Tangerines	½ cup of any three
Cooked meats and fish	Meat Chicken Lamb Mutton	Pork Rabbit Veal Venison	Fish (fresh, unsalted) Bass Cod Halibut Trout	5 oz. of one
Egg				1
Nuts, unsalted		Peanuts Almonds		50–55 nuts
Potato or substitute		Macaroni (cooked) Potato, white (cooked) Rice (cooked) Spaghetti (cooked)		½ cup of any one
Seasoning		Vinegar Paprika Pepper		Small amounts
Soup		None		
Sweets		Jelly Granulated sugar		3 tbsp. As desired
Vegetables	Asparagus Broccoli Brussels sprouts Cabbage Carrot (¼ cup only) Cauliflower Cucumber	Egg plant Endive Green beans Lettuce Mushrooms Onions Parsnips	Peas Salsify Tomatoes	½ cup of any one

* Diet plan taken from University Hospital Diet Manual, Rev. ed., 1947. Ann Arbor, Michigan.
** All food is prepared without salt, soda, or baking powder. Only the exact amounts of foods listed should be allowed.

TABLE 2

*Composition of one day's menu**

FOOD	AMOUNT OF FOOD		SODIUM	POTASSIUM	PROTEIN	FAT	CARBOHYDRATE	CALORIES	CALCIUM	PHOSPHORUS	IRON	VITAMIN A	THIAMINE	RIBOFLAVIN	NIACIN	ASCORBIC ACID
	Wt.	Measure														
	gm.		*mg.*	*mg.*	*gm.*	*gm.*	*gm.*		*mg.*	*mg.*	*mg.*	*I.U.*	*mg.*	*mg.*	*mg.*	*mg.*
Egg	50	1	65	69	6	6		80	27	105	1.4	570	.052	.161	.05	
Bread, unsalted**	90	3 slices	30	87	6	1	39	190	39	90	1.5		.180	.111	1.65	
Beef, raw	150	5 oz.	103	501	38	20		332	13	246	3.3		.030	.360	6.75	
Potato, white	100	1 small diced	2	325	2		19	84	11	56	.7	20	.110	.040	1.2	10
Carrot	50	¼ cup	11	118	1		5	24	19	19	.4	6000	.035	.030	.25	3
Oranges	100	1 medium	3	197	1		12	52	33	23	.4	190	.080	.030	.20	49
Jelly**	45	3 tbsp.	5	11			29	116	7	5	.1	4				
Peanuts	50	55 nuts	2	340	13	22	12	298	37	196	.9		.150	.080	8.1	
Grapefruit juice, sweetened	200	1 cup	1	468	1		32	132	16	24	.8		.060	.040	.44	70
Total.....			222	2116	68	49	148	1308	202	764	9.5	6784	.697	.852	18.64	132

* References: McCance and Widdowson (2) and Bowes and Church (3).

** Sodium figures obtained in Metabolism Laboratory, University Hospital.

TABLE 3

Nutrient value of diet adapted to inclusion of low-sodium milk

COMPOSITION OF DIET	SODIUM	POTASSIUM	PROTEIN	FAT	CARBOHYDRATE	CALORIES	CALCIUM	PHOSPHORUS	IRON	VITAMIN A	THIAMINE	RIBOFLAVIN	NIACIN	ASCORBIC ACID
	mg.	*mg.*	*gm.*	*gm.*	*gm.*		*mg.*	*mg.*	*mg.*	*I.U.*	*mg.*	*mg.*	*mg.*	*mg.*
Diet shown in Table 2 without peanuts, butter, and granulated sugar	220	1776	55	27	136	1010	165	568	8.6	6784	.547	.772	10.54	132
Add 1 pt. reconstituted low-sodium milk*	5	837	17	18	24	326	731	328			.223	.446	.34	
Total.....	225	2613	72	45	160	1336	896	896	8.6	6784	.770	1.218	10.88	132

* Figures for special low-sodium milk obtained from unpublished data.

Unsalted vegetable oils may be used as a salad dressing in place of some of the unsalted butter. Vinegar, paprika, and pepper may be used to season the foods.

Table 2 is an analysis of one day's menu chosen from the list of foods in Table 1. Table 3 gives the same menu plan as in Table 2 with the exception that the low-sodium milk has been substituted for the nuts.

The amounts of protein (70 gm.), vitamins, and inorganic elements with the exception of calcium, when the low-sodium milk is not included, compare favorably with the allowances of the National Research Council. It should be remembered that an addition of 30 per cent was made as a safety factor.

Thorough and very detailed instruction should be given to anyone who is requested to use this plan, because there are many instances where misinterpretation has occurred, and the individual has unknowingly ingested excessive amounts of sodium.

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Tearless Onions

At the University of California, Dr. Glen N. Davis has reported that a hybrid onion has been developed which can be peeled with few tears. However, he explains that to eliminate all of the tear-producing chemical in onions would destroy the flavor.—*New York Times, September 28, 1947.*

Ascorbic Acid Content of Hen's Eggs[1]

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EGGS ARE generally considered as possessing unique nutritive value. They contain a good quantity of protein, fat, calcium, phosphorus, iron, and copper. The egg protein is particularly valuable since it supplies the amino acids essential for building body tissues in satisfactory proportions. In a study of the biological value and true digestibility of a number of natural proteins that are included in the human dietary, Murlin, Edwards, and Hawley (1) found egg protein to have the highest biological value. According to Mitchell and Carman (2) the biological value of the most satisfactory proteins is 94 for egg, 85 for milk, 69 for beef, and 62 for veal.

As a consequence of their superior food value, eggs are commonly included in the diets of small children, invalids, and convalescents. Ordinarily the variety of foods in such diets is limited and the vitamin content of those foods becomes important. Snell and Quarles (3) found eggs contained pantothenic acid, riboflavin, nicotinic acid, inositol, and biotin. Other investigators have found vitamin A and thiamine, but it is commonly believed that eggs contain no ascorbic acid. Lepkovsky *et al.* (4), Hunt, Winter, and Bethke (5), Engel, Phillips, and Halpin (6), Norris and Bauernfeind (7), Jackson *et al.* (8), and others have reported that the riboflavin content of eggs can be greatly increased by adding significant amounts of riboflavin to hens' rations. The question naturally arose regarding the possibility of increasing the ascorbic acid content of eggs by giving hens large amounts of ascorbic acid, and the present investigation was conducted to accumulate data bearing upon this question.

EXPERIMENTAL PROCEDURE

Twelve mature, well-developed barred Plymouth Rock hens were selected from a flock of excellent layers. They were divided into two comparable groups of six birds each and placed in individual cages. A serious attempt was made to divide the birds so that the two groups would be identical as regards physical condition, but the body weights were not the same; the average for the experimental birds was 3243 gm. while that for the controls was 2957 gm. The sexual development of the birds in the experimental and control groups was apparently the same, for the average age when the first egg was laid was 162 days for both groups.

During a twenty-one-week experimental period all birds were fed a typical laying ration of dry mash and scratch grain. The mash had the following percentage composition: yellow corn meal (No. 2), 25.2; standard wheat middlings, 20; heavy oats finely ground (No. 2), 20; standard wheat bran, 10; meat scrap (55 per cent protein), 6.21; fish meal (55 per cent protein), 6.2; dried skim milk, 7; steamed bone meal, 1; and cod-liver oil (3000 I. U. vitamin A and 400 I. U. vitamin D per gram), .33. The scratch grain consisted of equal parts of wheat and cracked corn. The ration and fresh water were constantly available to the birds. Obviously, the consumption of the ration varied with the individual birds, but for all practical purposes it was identical for the two groups; i.e., the experimental birds consumed 123 gm. daily and the controls 121 gm. The ratio of consumption was approximately 60 per cent mash and 40 per cent scratch grain, since the experimental birds ate 68.0 gm. of mash and 54.8 gm. of scratch grain, while the control birds ate 70.4 gm. mash and 49.5 gm. of scratch grain daily. During the experimental period whenever it was necessary to prepare new lots of mash or scratch grains, samples were taken for analysis for ascorbic acid.

The eggs produced by the experimental and control birds were collected several times daily, and a record was made of the date, hour of the day, and the identification number of the hen that had produced the egg. The eggs that were reserved for ascorbic acid assay were wrapped in waxed paper and placed in a refrigerator having a temperature of 10°C.

[1] Contribution No. 623, Massachusetts Agricultural Experiment Station. Received for publication May 26, 1947.

Assays for reduced ascorbic acid were made every three weeks on an egg produced by each of the hens receiving injections. During the first nine weeks when the injections were made twice weekly, an egg laid approximately four days after an ascorbic acid injection was taken as a sample, but during the remainder of the experimental period the birds received four injections weekly and the interval between ascorbic acid injection and collection of the sample egg was necessarily shortened. The edible and non-edible portions of the egg were assayed separately.

It was decided that in order to detect even a small transference of ascorbic acid from the hen to the egg, massive doses of ascorbic acid should be administered. Since there was a likelihood of loss of ascorbic acid in the alimentary tract, it was decided to inject ascorbic acid subcutaneously under the thigh. During an eighteen-week period the hens in the experimental group received two injections each week for the first nine weeks and four injections per week for the balance of the study, or a total of 246 injections. The ascorbic acid was dissolved in 2 cc. of sterile Ringer's solution as prepared by Guyer (9). During the first week 100 mg. of ascorbic acid were used per injection, but thereafter only 50 mg. were injected at a time; allowing for holidays and an unforeseen interruption, this made a total of 2150 mg. per bird.

Samples of the mash, the scratch grain, and the eggs were assayed for reduced ascorbic acid by the titration method of Bessey and King (10).

RESULTS AND DISCUSSION

Assays of the various samples of laying mash and of scratch grain yielded no evidence that these materials contained any ascorbic acid. Fifty-two eggs, twenty-four produced by the experimental and twenty-eight produced by the control birds, were assayed. None of the eggs collected during the twenty-one-week experimental period from either the experimental or the control birds contained a detectable amount of reduced ascorbic acid. Also, a number of turkey eggs, selected at random, which were assayed at the same time, were likewise found to be devoid of this vitamin. Judged by these results, the hen has little if any ability to transfer ascorbic acid from her body to the eggs she lays.

Possibly this conclusion might have been anticipated, for Satterfield and co-workers (11) have shown that while subcutaneous injections of large amounts of ascorbic acid will rapidly increase the amount in hens' blood plasma three or fourfold, its effect is exceedingly transitory. These authors (12) also showed that even after many weeks of subcutaneous injections of ascorbic acid, there was no increase in the amount present in the hens' liver, kidneys, and spleen, but there was an increase in the amount present in the lungs and adrenals. Furthermore, a number of investigators have made ascorbic acid determinations on hen's eggs produced under conditions somewhat similar to those existing for the production of commercial eggs. Sherman (13), Hauge and Carrick (14), Rose and Vahlteich (15), and Suomalainen (16) report that fresh eggs contain no ascorbic acid. According to Kon (17), there are only traces of ascorbic acid in eggs. Chi and Read (18) assayed both the white and yolk of duck eggs (Chinese) and were uncertain from the results obtained by two methods of assay whether the eggs contained some ascorbic acid; and Machida and Sasaki (19) found a small amount of ascorbic acid in the yolk, but none in the white of hen's eggs (Japanese).

On the other hand, McClendon and Pettibone (20) have stated that eggs contain all the vitamins, and Rosenberg (21) is of the same opinion for he comments as follows, "small but definite amounts of all vitamins are found in milk and eggs."

In this discussion it is interesting to note that Ray (22) reports that fresh brown Leghorn eggs contained no ascorbic acid, but after four days' incubation they contained quite a large amount—a condition similar to the generally observed significant development of ascorbic acid in the early development of a number of types of plant embryos. Suomalainen (16) also reported the development of ascorbic acid coincident with the development of the embryo chick.

While it is generally believed that commercial hen's eggs are devoid of ascorbic acid, Mathiesen (23) made a chemical and biological examination of fish eggs and reported that fresh cod roe contained 0.20 to 0.40 mg. per 100 gm. Lunde (24) also found cod roe a good source of ascorbic acid.

SUMMARY

Twelve, mature, well-developed barred Plymouth Rock hens were selected from a high-producing flock, placed in individual cages, and fed for twenty-one weeks a typical ration devoid of ascorbic acid. The hens in the experimental group were injected two or four times per week subcutaneously under the thigh with a sterile solution of reduced ascorbic acid—a total of 2150 mg. The food consumption, date of first egg, and number of eggs produced, were the same for experimental and control groups. Eggs for assay were collected each three weeks, four days after an ascorbic acid injection. No ascorbic acid was found in any of the eggs from either the experimental or control groups, adding data to the general belief that commercial hen's eggs are devoid of ascorbic acid.

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New Requirements for Army Emergency Rations

At a recent conference on survival rations held in Chicago by the Quartermaster Food and Container Institute new findings regarding body requirements of nutrients were disclosed.

Heretofore, it has been thought that carbohydrate alone must be used if minimum loss of water and nitrogen were to result. This is especially important to the armed forces, for practically no drinking water is available during emergency conditions to replenish the water lost through normal elimination processes.

Now it is reported that this minimum loss of water and nitrogen can be achieved through a diet including balanced amounts of protein and fats as well as carbohydrates, and that the best emergency ration for one man per day should consist of 30 to 35 gm. protein (8 to 10 per cent of total caloric intake); 40 to 60 gm. fat (20 to 30 per cent of intake); and 275 to 325 gm. carbohydrate (60 to 70 per cent of intake). The desired intake is now set at 1800 calories per day. Other requirements are that it must be swallowed easily with a restricted water supply and be varied in color, taste, and consistency.

In addition to these nutritional requirements, other specifications make the problem of developing survival rations extremely difficult. For example, the ration must maintain its palatability and nutritive value after eighteen months' storage, including six months at 100°F., repeated periods of freezing and thawing, and fifty simulated ascents to 40,000 ft. altitude.

Packaging requirements, too, are rigid. The container for these rations must be hermetically sealed, waterproof, resistant to pressure changes, non-sticky, and easy to open. Its total volume cannot exceed 30 cu. in. Printed instructions for use must be printed on the outside of the container, and a plastic bag must be enclosed for keeping items not immediately eaten.

In the present state of development, the ration consists of three types of bars—"cereal bars," including such foods as oatmeal, coconut, cheese, malted milk, and vanilla; "fruit and cereal bars," including wheat, rice, and apricots; and "dairy bars," including modified "sweetmeat," cheese, crackers, peanut butter, and jam. Studies are also being made to learn whether other products can be adapted to this type of use, such as candy; soluble coffee; sugar, orangeade, or lemonade powder; chewing gum; cigarettes; matches; and water purification tablets.—*Food Field Reporter, September 15, 1947.*

Swordfish in Human Nutrition[1]

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SWORDFISH enjoys high popularity among American seafoods. Not only is it attractive in appearance, but it is "all meat" and is convenient to cook. The flavor is mild and appealing. It is, therefore, of interest to know how this fish contributes to the nutritional needs of the consumer. Only the proximate composition of swordfish is found in the literature. This resumé is based on the experimental studies of Lopez-Matas and Fellers (1, 2) who determined in swordfish (a) its protein, fat, and moisture content; (b) the content of the amino acids generally known as "essential" in human nutrition; (c) the content of several of the vitamins; and (d) its nutritive value for growth in experiments using white rats.

Table 1 gives figures on the content of some nutrients of swordfish in the raw frozen, broiled, canned, and dehydrated condition. The values were calculated from the analytical data obtained by the authors. Table 2 presents a comparison of the nutritive content of swordfish with that of several other protein foods.

TABLE 1

Nutrients found in raw frozen, broiled, canned, and dehydrated swordfish flesh (1)

CONDITION OF FLESH	WATER	PROTEIN	FAT	CARBOHYDRATE	VITAMIN A	THIAMINE	RIBOFLAVIN	NIACIN	ENERGY
	gm./100 gm.	*gm./100 gm.*	*gm./100 gm.*	*gm./100 gm.*	*I.U./100 gm.*	*mg./100gm.*	*mg./100 gm.*	*mg./100 gm.*	*calories/ 100 gm.*
Raw frozen	76.6	18.7	3.1	0	1585	0.053	0.049	9.1	103
Broiled	64.5	28.7	5.1	0	3520	0.039	0.052	13.9	160
Canned	78.0	17.5	3.0	0	1575	0.013	0.048	8.5	99
Dehydrated	2.4	68.1	28.0	0	3510	0.096	0.334	25.0	524

TABLE 2

*Comparative nutritive content of swordfish and of other protein foods**

FOOD	WATER	PROTEIN	FAT	TOTAL CARBOHYDRATES	CALORIES	VITAMIN A	THIAMINE	RIBOFLAVIN	NIACIN
	gm./100 gm.	*gm./100 gm.*	*gm./100 gm.*	*gm./100 gm.*	*cal./100 gm.*	*I.U./100 gm.*	*mg./100 gm.*	*mg./100 gm.*	*mg./100 gm.*
Swordfish**	76.6	18.7	3.1	—	103	1595	0.053	0.049	9.1
Beef†	59.0	17.2	12		173		0.12	0.15	5.2
Chicken††	72.8	21.1	4.5		125	trace	0.11	0.18	8.6
Hen egg‡	74.0	12.8	11.5	0.7	158	1140	0.12	0.34	0.1
Ham‡‡	46	13.1	27		292		0.12	0.15	5.2
Tuna¶	71.5	24.7	3.0		126	130¶¶	0.04¶	0.11¶	9.2¶
Halibut§	75.4	18.6	5.2		121		0.11§		
Salmon§§	63.4	17.4	16.5		21	80¶	0.03¶	0.18¶	6.5¶

* References: Chatfield (3), and U. S. D. A., Misc. Publ. No. 572 (4).
** Values determined in this work, fresh flesh.
† Medium fat round A. P.
†† Flesh only of fresh roasting chickens.
‡ E.P., fresh.
‡‡ Medium fat, A.P., fresh.
¶ Yellow fin, fresh.
¶¶ Canned, total contents of can.
§ Raw, E.P., flesh.
§§ King, E.P., raw.

As a result of the analytical and biological data obtained in the course of the experiments referred to above, the nutritive value of swordfish flesh may be summarized as follows:

It is food with a high content of protein of good quality from the biological standpoint. This is deduced from the growth experiments with rats and from the composition of its protein. The latter contained the ten amino acids essential for human nutrition, which indicates that it is a complete protein. There are no published data on the digestibility of swordfish flesh, but the publications which refer to other fish have indicated that the protein is from 85 to 95 per cent digestible. If this is also true of swordfish, it would mean that the protein of this fish has a high biological value.

Swordfish also contributes some fat, although it cannot be considered a fat food. Like most animal protein foods, it contains no appreciable amount of carbohydrates.

The vitamin A content of swordfish flesh is high and is not exceeded by that of any other protein foods, except livers, although some vegetables (carrots, sweet potatoes, and others) have a higher content. Its thiamine and riboflavin content are about one half that of halibut, beef, and chicken, all of which are foods known to be rich in the B vitamins. The niacin content of swordfish flesh is about 40 per cent higher than that of beef and ham and about the same as that of chicken and tuna.

Swordfish flesh also contains other vitamins in moderate amounts, such as biotin, pantothenic acid, and choline.

All these features, added to the flavor of its flesh, make swordfish a food which can be recommended from the standpoints of both palatability and nutrition.

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[1] Received for publication July 31, 1947. Abstracted from the thesis of the senior author presented in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

A.D.A. PROGRAM TO BE GIVEN AT A.A.A.S. MEETING

The American Dietetic Association will sponsor a Dietetic Section program at the annual meeting of the American Association for the Advancement of Science to be held in Chicago, December 26–31. At the meeting, all of the major sciences will be represented with programs, and the dietetic profession is pleased to have been so honored.

The two meetings sponsored by A.D.A. will be held Monday and Tuesday afternoons, December 29 and 30, at 2:00 p.m. The programs have been planned by a committee headed by Martha Trulson, chairman, and Nell Henningsen, co-chairman. Members of their committee are: Ella Marie Eck, Margaret H. Brookes, Elva Hiscock, Ella Jane Meiller, and Aileen Merwin. The Dietetic Section meetings will include the following papers:

Monday afternoon: Margaret Hessler Brookes, presiding

"Tryptophane and Niacin Relations and the Implications to Human Nutrition," by C. A. Elvehjem, head, Department of Biochemistry, University of Wisconsin, Madison

"The Nitrogen Metabolism of Women," by Margaret A. Ohlson, head, Department of Nutrition, Michigan State College, East Lansing

"The Problem of Protein Hydrolysates and Concentrates for Oral Feedings," by Paul R. Cannon, chairman, Department of Pathology, University of Chicago

Tuesday afternoon: Thelma Porter, presiding

"Food and Its Emotional Significance," by Charlotte L. Babcock, M. D., Chicago

"Food Preferences of Young Children," by Miriam E. Lowenberg, nutritional supervisor, Rochester Child Health Project, Rochester, Minnesota

"Problems of Feeding the School Age Child," by E. Neige Todhunter, head, Department of Food and Nutrition, University of Alabama, Tuscaloosa

Although this is the second year the A.D.A. has been asked to sponsor such a program, it is the first year in which it has done so as an affiliated member of the A.A.A.S. On April 27 of this year A.D.A.'s status was changed from that of an associated member of A.A.A.S., to that of an affiliated member, and as such is now entitled to representation on the A.A.A.S. council. Dr. Todhunter, who is a Fellow of the A.A.A.S., is serving as the A.D.A. representative on this council.

The Effect of Soda on Ascorbic Acid in Tomato Juice[1]

EVA G. DONELSON[2] and DORIS GRAMBOW

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IN SOME recipes using tomatoes it is recommended that sodium bicarbonate be added to diminish the acidity. In cooking green vegetables, the addition of soda aids in the preservation of the original color, but this treatment is generally conceded to be destructive of the ascorbic acid content. A recent study on the ascorbic acid value of fresh and frozen peas cooked in water to which a small amount of sodium bicarbonate had been added showed no greater loss of the vitamin than during cooking in plain water (1). It thus seemed pertinent to investigate the effect of introducing soda on the ascorbic acid content of tomato juice.

PROCEDURE AND FINDINGS

Canned tomato juice was analyzed for ascorbic acid content by the modified Morell method (2). Four analyses were made on each sample as follows: (a) the original, untreated sample, (b) the sample heated to 80°C., (c) the sample held for 15 min. at 80°C. after the addition of sodium bicarbonate, and (d) the sample held for 30 min. at 80°C. after the addition of sodium bicarbonate. The amount of soda added was in accord with the household recommendatin of ½ tsp. (1.16 gm.) per quart.

The findings from the analysis of fifteen samples of tomato juice are recorded in Table 1. The amount of ascorbic acid when expressed on a moist basis was not changed by the addition of sodium bicarbonate to the hot juice, despite continued heating of the sample for as long as 30 min. To the contrary, when the values are expressed in terms of dry weight, a loss of the vitamin is apparent and is found to have increased on continued heating.

To correct the values calculated on the moist basis for the influence of evaporation, the heated samples were adjusted to the moisture content of the corresponding original samples and the vitamin values recomputed on that basis. The mean of the adjusted values for the samples heated to 80°C. was 14.5 mg. per 100 gm., and the mean observed value, 14.8 mg per 100 gm. For the samples held at 80°C. for 15 min. after the addition of soda, the mean of the adjusted values was 13.2 mg. per 100 gm., and the mean observed value was 14.4 mg. per 100 gm. For those samples held at 80°C. for 30 min. after the addition of soda, the mean of the adjusted values was 12.2 mg. per 100 gm. in contrast to 14.8 mg. per 100 gm. as observed. The loss of moisture caused the ascorbic acid concentration of the samples when exposed on the moist basis to be high, thus concealing the effect of the sodium bicarbonate.

The significance of the differences in the ascorbic acid content of the original samples and of the samples after the several treatments was determined by means of analyses of variance (3), the results of which are recorded in Table 2. The variance in the ascorbic acid values of the original samples, whether expressed on the moist or dry weight basis, was found to be highly significant. The effect of treatment by heat and the addition of soda were not significant when the values were computed on the moist basis but highly significant when computed on the dry basis. The samples to which soda had been added contained significantly less of the vitamin than the samples heated to 80°C. without the addition of soda ($p. > .01$ in each instance) when computed on the dry basis.

[1] Minnesota Agricultural Experiment Station, Scientific Journal Series, Paper No. 2278. Received for publication July 19, 1946.

[2] Now chairman, Food and Nutrition Division, Ohio State University, Columbus.

TABLE 1

The ascorbic acid content of tomato juice as affected by the addition of sodium bicarbonate

SAMPLE	UNTREATED SAMPLE				SAMPLE HEATED TO 80°C.				SAMPLE WITH $NaHCO_3$ ADDED AND HELD 15 MIN. AT 80°C.				SAMPLE WITH $NaHCO_3$ ADDED AND HELD 30 MIN. AT 80°C.			
	pH	Ascorbic acid		Moisture	pH	Ascorbic acid		Moisture	pH	Ascorbic acid		Moisture	pH	Ascorbic acid		Moisture
		On moist basis	On dry basis			On moist basis	On dry basis			On moist basis	On dry basis			On moist basis	On dry basis	
		mg./100 gm.	*mg./100 gm.*	%		*mg./100 gm.*	*mg./100 gm.*	%		*mg./100 gm.*	*mg./100 gm.*	%		*mg./100 gm.*	*mg./100 gm.*	%
1	3.5	14.2	267.4	95		15.2	287.4	95	4.0	14.8	255.1	94		16.0	269.8	94
2	4.3	16.4	339.7	95	4.1	16.6	337.9	95	5.2	15.2	298.4	95	5.2	16.2	292.8	94
3	4.3	17.3	359.0	95	4.0	17.4	333.6	95	4.8	15.6	260.4	94	4.9	18.2	210.0	91
4	4.2	14.9	307.1	95	3.5	14.6	289.8	95	4.8	14.0	264.9	95	5.1	14.4	240.1	94
5	4.2	15.8	337.2	95	4.2	15.1	313.7	95	4.9	15.7	304.4	95	4.8	13.4	228.9	94
6	3.9	15.2	310.0	95	3.8	14.6	298.2	95	4.6	14.7	274.0	95	4.6	15.0	257.9	94
7	4.3	13.4	250.0	95	4.1	13.9	259.8	95	6.6	13.2	227.5	94	6.8	14.2	206.5	93
8	4.4	13.8	259.7	95	4.4	13.4	246.1	95	6.9	14.6	246.3	94	6.9	15.0	230.6	94
9	4.3	14.8	274.3	95	4.3	14.3	258.4	94	6.7	13.9	236.6	94	6.2	13.6	210.1	94
10	4.2	14.3	279.2	95	3.7	16.0	307.2	95	5.0	13.5	250.3	95	5.1	15.3	253.8	94
11	4.1	14.2	275.9	95	4.0	13.1	250.3	95	4.8	14.1	259.4	95	5.0	14.1	233.9	94
12	4.0	13.4	260.1	95	4.0	14.1	270.6	95	4.9	12.8	235.3	95	4.9	13.5	227.2	94
13	4.1	15.5	281.7	94	3.8	14.4	253.0	94	6.3	13.5	226.3	94	5.8	11.7	208.7	94
14	3.4	14.4	261.5	94	3.8	15.0	265.4	94	6.4	15.2	255.0	94	6.8	13.7	211.6	94
15	3.6	16.1	288.2	94	4.6	14.9	258.5	94	5.4	14.8	245.6	94	5.7	17.1	259.4	93
Average..		14.9	290.1	95		14.8	282.0	95		14.4	256.0	94		14.8	235.4	94

TABLE 2

Analysis of variance of ascorbic acid values of tomato juice

SOURCE OF VARIATION	DEGREES OF FREEDOM	MEAN SQUARE
Moist weight basis		
Total	59	
Individual samples	14	3.97*
Treatment	3	0.87
Discrepance	42	0.70
Dry weight basis		
Total	59	
Individual samples	14	2206.96*
Treatment	3	9152.32*
Discrepance	42	340.56

* Highly significant.

SUMMARY

It is evident that under the conditions of this study, soda added to tomato juice in the amounts usually recommended for making soup and heated for 15 and 30 min. caused a lowering of the ascorbic acid content of the juice.

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The Vitamin M Group and Gastrointestinal Absorption

At the May meetings of the Federation of American Societies for Experimental Biology held in Chicago, it was reported that the response of patients in six relapses of sprue had been followed after therapy with the vitamin M group (pteroylglutamates) only. The report, made by William J. Darby, Edgar Jones, Henry F. Warden, and Margaret M. Kaser, stated that satisfactory hematologic remissions have been accompanied by the following clinical evidences: improved gastrointestinal absorption, relief of glossitis, cessation of diarrhea, and chemical changes interpreted as indicating improved absorption of glucose and of fat-soluble substances from the alimentary tract. These chemical evidences were: (a) a rapid return toward normal of the flat glucose tolerance curves characteristic of sprue; (b) a more gradual return toward normal of the vitamin A and tocopherol tolerance curves; (c) a rise in serum carotene and tocopherol levels; and (d) a decrease in the prothrombin time. Less extensive data indicate that the stool fat content decreased and that the abnormal gastrointestinal pattern on X-ray returned slowly toward a normal pattern.

Food Conservation Program

As this issue of the JOURNAL goes to press, the program of the Citizens Food Committee for saving grain for export to Europe will be well under way. Shortly after its organization by the President and the appointment of Charles Luckman as chairman, a Consumer Service Section of the Committee was set up to help Americans eat good, nutritionally sound meals that still conform to the food conservation program. This Section is headed by Katharine Fisher, director of the Good Housekeeping Institute and an A.D.A. member.

The American Dietetic Association is cooperating in every way with this conservation program and feels honored that seven of its members, including our President, Dr. Helen A. Hunscher, and two past-presidents—Mary Barber and S. Margaret Gillam—have been asked to aid in the program officially. An Advisory Council representing all food buying and serving interests of the public—the home, restaurants, hotels, hospitals, schools and colleges, industry, and children—is working with the Consumer Service Section, and with organizations in their respective fields in disseminating information on meal-planning and food conservation. The membership of this Council is as follows:

Katharine Alderman, President, The American Home Economics Association, St. Paul, Minnesota
Mary Baber, Chairman, Women's Committee of the Grocery Manufacturers Association, and Director, Home Economics Department, Kellog Company, Battle Creek, Michigan
Dr. Martha Elliott, President, American Public Health Association, and Associate Chief, U. S. Children's Bureau, Washington, D. C.
S. Margaret Gillam, Dietary Consultant, American Hospital Association, Chicago, Illinois
Constance C. Hart, Chairman, School Food Service Association, and Director of School Lunchrooms, Board of Education, Rochester, New York
Dr. Helen A. Hunscher, President, American Dietetic Association, and Head, Department of Home Economics, Western Reserve University, Cleveland, Ohio
Alberta Macfarlane, Educational Director, National Restaurant Association, Chicago, Illinois
Howard F. Dugan, President, American Hotel Association, New York City
Dr. Hazel Stiebeling, Chief, Bureau of Human Nutrition and Home Economics, U. S. Department of Agriculture, Washington, D. C.
Ken Williams, Specialist in Industrial Feeding, Harding-Williams, Chicago, Illinois

In accepting the appointment to the Advisory Council, Dr. Hunscher, President of the American Dietetic Association, urged more careful purchasing of food and more judicious use of both purchases and left-overs to save needed foods. Dr. Hunscher cited some prevalent "old wives' tales" as responsible for unnecessary expenditure and overuse of wheat and meat, one of which is the belief that when people work harder, they need to eat more meat. Actually, she said, "it was scientifically proved as early as 1870 that work increases the need for calories and not for protein.

"Most people do not realize that a pint of milk supplies as much protein as a good serving of meat. It is not necessary to eat meat every day to maintain an adequate diet. The same values contained in meat may be obtained in even greater quantities from eggs, fish, and cheese, as well as milk and can be combined in tasty main dishes which are more fun to make and a challenge to a good cook. This year when fish supplies are high, we can learn to like it and cut marketing bills. When fish is used in interesting ways—in casseroles and with the clever use of herbs—almost everyone can learn to like fish." She went on to explain, too, that "soybean flour can be added to baked goods in small quantities without any taste of soya and with much added food value." She suggested "spiking" left-overs with seasoning and combining bits with imagination, as well as the use of both white and sweet potatoes, squash, and turnips, which are plentiful, as a substitute for bread.

Dr. Hunscher at the same time urged the reduction of waste as the second part in her plan of action to cooperate with the national conservation effort. She gave such pointers as keeping bread in the refrigerator to prolong its useful life if uneaten, and the toasting of stale bread for melba toast.

The Consumer Service Section is carrying out a four-point program and is distributing information daily to the consumer through the press, radio, and other channels. This program includes:

(a) The planning of a daily "Peace Plate," which includes menu suggestions.

(b) Providing daily marketing hints on buying economically and using foods that are in plentiful supply.

(c) Suggesting good cooking methods which will conserve flavor and nutritive values.

(d) Providing ideas for the good use of left-overs, which will save food in other ways, and which will avoid waste.

Also helping the Consumer Service Section in its publicity work in other capacities are A.D.A. members Helen Robertson and Katharine R. Smith. Miss Smith, who is director of the Home Economics Division of the National Canners Association, Washington, has been loaned half time to help with the work of Miss Fisher's Section, and Miss Robertson, as food editor of the Cleveland *Plain Dealer*, is cooperating with the program in connection with newspaper publicity for it.

In addition to the American Dietetic Association, a number of other national organizations have pledged their support to this program, including the American Home Economics Association, the Bureau of Human Nutrition and Home Economics of the Department of Agriculture, the Children's Bureau, the U. S. Fish and Wild Life Service, National Restaurant Association, School Food Service Association, and the American Hospital Association. In calling on the nation's hospitals to cooperate with the program, Graham L. Davis, president of the American Hospital Association, made a statement which we feel all dietitians will appreciate. He said: "Compliance with the President's request (for the observation of meatless Tuesdays and eggless Thursdays) should be possible insofar as meals to hospital personnel and routine food service to patients is concerned. However, the nutritional and special diet requirements of patients must necessarily follow the physician's recommendations in the interest of proper patient care." For the 1,142,000 patients in the nation's hospitals, Mr. Davis pointed out that hospitals "purchase an average of 6 oz. of meat per patient per day. Thus, a possible daily saving of meat in hospitals among patients alone amounts to approximately 6,852,000 oz., or 428,250 lb. for each Tuesday the meatless campaign is observed. In addition, these hospitals employ approximately 830,000 full-time personnel, many of whom eat one or more meals daily in hospitals, a source of considerable additional saving."

Editorial

ARMY DIETITIANS RECEIVE PERMANENT RANK

An historical event for the dietetic profession took place at the Press Relations Luncheon on October 15 in Philadelphia, during the 30th Annual Meeting of the American Dietetic Association. On that occasion the oath of office was administered to five of the officers appointed in the first increment in the Dietitian Section, Women's Medical Specialist Corps of the Regular Army. The oath was given by Lieutenant Colonel Bernard S. Motkowski, Commanding Officer of the Philadelphia Army and Air Force Recruiting Station to: Captain Myrtle Aldrich, Fitzsimons General Hospital, Denver; Captain Helen M. Davis, McCormack General Hospital, Pasadena, California; Captain Velma Richardson, Letterman General Hospital, San Francisco; Captain Grace Smith, Brooke General Hospital, Fort Sam Houston; and Captain Helen A. Dautrich, Oliver General Hospital, Augusta, Georgia.

Thus a milestone in the advancement of dietetics as a profession was passed as the first dietitians assumed permanent rank in the regular Army. On April 16, 1947, President Truman signed the bill, H.R. 1943, which provided for the permanent commissioned status of the dietitian in the Army through the establishment of a Dietitian Section of the Women's Medical Specialist Corps. According to this law, the head of this Section will hold temporary rank of Lieutenant Colonel, with others serving under her with permanent rank of major, captain, first lieutenant, and second lieutenant. Officers of this Corps are entitled to the same benefits of retirement, allowances, promotion, and sick leave provided for male Army officers. (See p. 971 of the November issue of the JOURNAL.) With this ceremony the dietitian received recognition for work well done over the period of the first World War up to the present. The members of The American Dietetic Association salute the Army dietitian!

Lt. Col. Bernard S. Motkowski swears in five officers appointed in the first increment of the Dietitian Section, Women's Medical Specialist Corps.

HELEN E. WALSH, PRESIDENT-ELECT OF THE AMERICAN DIETETIC ASSOCIATION

The American Dietetic Association is particularly fortunate in having as President-Elect for 1947–48, Helen E. Walsh, whose wide experience during the past few years with the Nutrition Programs Branch and the U. S. Public Health Service has acquainted her with the problems with which dietitians and nutritionists are confronted daily. During the early part of the war, Miss Walsh acted as Field Consultant for the Nutrition Programs Branch of the U. S. Department of Agriculture. More recently she served as Lieutenant Commander in the U. S. Public Health Service and was assigned to the newly-created Nutrition Section, whose work is that of studying the nutritional status of population groups. On September 1 of this year, Miss Walsh's commission was inactivated in order that she might return to the West as Supervising Nutritionist with the California State Department of Health in San Francisco.

Miss Walsh, as President-Elect of the Association, brings with her wide experience in the activities of professional dietetic organizations, having been president of the California Dietetic Association and Vice-President of the American Dietetic Association, as well as having served on the Executive Board of the national organization for six years as Chairman of the Community Nutrition Section. She will be the second president of the Association whose major interest and experience is in the field of community nutrition. Miss Walsh's rich background in the work of the American Dietetic Association, her varied professional experiences, along with her realistic vision and loyalty to the dietetic profession, give her exceptional qualifications for filling the office of President-Elect and later of President of the Association.—*Margery Vaughn, nutritionist, U. S. Public Health Service, Brattleboro, Vermont.*

THE 1947 MARJORIE HULSIZER COPHER MEMORIAL AWARD

Members of The American Dietetic Association were especially pleased and honored that the Association's first president, Lulu Graves, attended the 30th Annual Meeting held in Philadelphia, thus helping to celebrate three decades of professional growth and achievement. Particularly appropriate was the climax of the week's events—the presentation of the 1947 Marjorie Hulsizer Copher Award to Miss Graves at the annual banquet.

The Marjorie Hulsizer Copher Memorial Award was established in 1944 when an anonymous gift of $5000 was made to Barnes Hospital, St. Louis, for the purpose of perpetuating the name of Mrs. Copher in the field of dietetics. An additional sum has since been added to the original contribution, and the interest from the fund each year goes to the person selected by the Executive Board of the American Dietetic Association with the advice of the director of Barnes Hospital. The recipient for this honor is chosen for outstanding work in dietetics.

This year, for the first time, it was possible for a representative of Barnes Hospital, where Mrs. Copher served as chief dietitian for a number of years, to be present at the banquet. Dr. Frank R. Bradley, director of Barnes Hospital, brought greetings from the Board of Trustees of that organization to Miss Graves and to the Association.

The award was presented to Miss Graves "in recognition of her exceptional contribution as a pioneer in the dietetic profession, as diet therapist, administrator, teacher, author, and consultant; and in grateful appreciation for her leadership and inspiration as the first president of the American Dietetic Association which was founded in 1917."

In making the presentation, Mable MacLachlan, President of the Association, said:

"In 1917 the small number of dietitians were mainly in hospitals. With war shortages of employees as well as of food, they were confronted with many of the same problems as the dietitian in 1940. In 1917, however, the dietitians did not have an organized group of professional colleagues to whom to turn for exchange of information. Although some belonged to the Institution Management Section of the American Home Economics Association, that organization had cancelled its annual meeting, and thus, in that very important war year, there was no place where wartime problems could be discussed. This fact, according to our historical material 'tended to emphasize our feeling of bewilderment.' In the summer of 1917, Lenna Cooper went to Cleveland to formulate a plan 'whereby dietitians could best serve their hospitals and the war needs'

"A conference was planned for October 18 to 20, 1917, and all dietitians 'of their acquaintance' were invited by letters written in long hand. Those invited passed the word along to others, and the October issue of *Modern Hospital* carried an announcement of the conference. Approximately one hundred dietitians from sixteen states and Canada responded to the call.

"The first meeting was held in a basement room at Lakeside Hospital, Cleveland (now part of University Hospital). Dr. C. F. Hoover, chief of the medical staff, gave the address of welcome, in which he said that he hoped the group would form a permanent organization and that if they did organize, he was sure it would grow very rapidly. It was decided at that meeting to form an independent group for dietitians, to be known as The American Dietetic Association.

"Two members spent the night working out a constitution which was submitted, together with a report of a nominating committee, at a meeting at the Hollenden Hotel the next day. Thirty-two

persons became charter members (according to the best figures we have). Lulu Graves was chosen as President and served in this capacity for three years. Her untiring efforts, her enthusiasm, her encouragement to the younger dietitians all contributed to laying the solid foundation upon which this Association has been built. Many of our mature dietitians of today look back with appreciation on the inspiration her efforts gave them, and her friendly, wise counselling has endeared her to all of us.

"It was fitting that she was made honorary president of the Association, and today on our thirtieth anniversary it is equally fitting that she has been chosen as the 1947 recipient of the Marjorie Hulsizer Copher Award—the highest honor this Association has to bestow."

A.D.A. LOANS FOR GRADUATE STUDY

At the 29th Annual Meeting of the American Dietetic Associction held in Cincinnati, in 1946, the Executive Board and the House of Delegates approved the following plan for encouraging graduate study by members. State and local associations are urged to encourage their members to support and use this fund.

In an effort to encourage graduate study in the field of nutrition and dietetics by younger members of the American Dietetic Association, a Loan Fund for Graduate Study has been established. It is increasingly apparent that the profession needs more members qualified to accept responsible positions of leadership for which advanced degrees are requisite. Although some approved internships now offer graduate credit, few provide an opportunity to complete the work for the master's degree unless additional time is spent in study. Thus the Association is offering loans to qualified applicants who wish to continue with graduate work toward an advanced degree, but who might not feel able to finance such study without some financial help.

This Loan Fund for Graduate Study was originated by gifts from members and friends of the Association during the past four years. Additions are currently being made by state, territorial, and local dietetic associations, by memorial gifts, bequests, and interest on special funds held by the Association. The opinions expressed by several members that such funds be used for fellowship purposes have been given careful consideration by the committee and the Executive Board. In view of the limited nature of the fund, it has been decided that for the present at least, loans rather than outright gifts can benefit more people.

Funds will be administered by the Executive Board of the Association upon recommendation of the Finance Committee of the Board. A standing committee to be known as the Committee on Loan Fund for Graduate Study will review applications and select recipients. The policies pertaining to the granting and administering of the Loan Fund for Graduate Study are subject to change as more funds become available. Present policies are as follows:

1. ELIGIBILITY OF APPLICANTS:

Any person who has been an active member of the American Dietetic Association for at least two years and wishes to pursue graduate study leading to an advanced degree may make application for an A.D.A. loan. No more than three applicants from any one state or territory can be considered.

2. HOW AND WHEN TO APPLY:

Applications for loans should be made on special forms which may be procured from the A.D.A. office in Chicago, or from the state dietetic association secretary. Application must be accompanied by full credentials, including transcript of college credits, a photograph, and a personal letter stating plans for graduate work, time and place contemplated, degree sought, and future plans. Application must be endorsed by a state officer or House of Delegates representative of the state association, and by one other member of the Association familiar with the applicant's work in a professional capacity. Applications must be in the Chicago office before March 1, 1948. Notification of loans granted will reach recipients before May 1, 1948.

3. AMOUNT OF LOANS, INTEREST, REPAYMENT, AND SECURITY:

Loans of any amount up to $1000 may be made to qualified applicants, the total loans or installments to be adjusted according to circumstances. The total amount loaned in any one year shall be determined by the total funds available and so proportioned as to provide for equivalent loans in subsequent years.

Interest on loans shall be charged at the rate of 2 per cent annually, beginning one year from the date of the loan. Repayment of the principle should be made as soon as possible in order to allow other members of the Association to benefit from the loan privilege. It is expected that all loans will be repaid within three years from the date of the loan.

Security for these loans may be provided by endorsement by a responsible person or by life insurance carrying a rider providing for payment of the loan to the Association in case of death. The terms of loans made may not be uniform but may vary according to the facts in particular cases as the administering authorities may deem advisable.

4. SELECTION OF LOAN RECIPIENTS:

Final selection of recipients from among applicants will be made according to qualifications and need as judged by members of the Committee on Loan Fund for Graduate Study. The names of applicants and recipients of loans may be kept confidential if so requested.

Current Comment

SCHOOL MEALS IN BRITAIN[1]

EDNA M. LANGLEY

His Majesty's Staff Inspector, School Meals Service, Ministry of Education, London, England

Like so many of our social services, the origin of the School Meals Service can be traced to the work of charities in the middle of the last century.

The Destitute Children's Dinner Society began in one of Lord Shaftesbury's Ragged Schools in Westminster in 1874, and five years later fifty-eight dining rooms for school children had been opened by that Society. In 1884, the Council for Promoting Self-Supporting Penny Dinners was organized, and there were other agencies, churches, and chapels which were providing meals. In 1889 the London School Board initiated the London School Dinners Association to coordinate and advise on selection, for no Local Education Authority had as yet been given any power to spend money on feeding the school child. These societies provided dinners only in the winter.

Some good comes out of evil, and the evolution of school feeding owes much to the impact of three great wars. After many fruitless efforts the Education (Provision of Meals) Act of 1906 came as an indirect result of the grave malnutrition disclosed in the recruiting for the South African War and the report of the Royal Commission on Physical Deterioration. The Act gave Local Education Authorities power to provide meals free or at reduced charges for necessitous children, and for others at a charge of not less than the cost of the food.

By 1913, 150,000 children were being fed at an average total cost per meal of 2½d., compared with the average in 1907 of 1½d.

In August, 1914, came the sudden outbreak of the first World War, and in anticipation of the widespread distress, there was a great extension of school meals in the first winter of the war—600,000 children being fed at an average total cost per meal 4.1d. In 1915, the London County Council established a standard dinner content of a minimum of 750 calories, with 25 gm. of protein, two thirds of which was to be first class protein—a great advance on previous standards. Later, with the increase of employment and the prosperity of war, the number of children fed fell rapidly to about an eighth of those fed during the first war winter. (When we compare school feeding during the two world wars we shall find history reversing rather than repeating itself.)

The great coal strike of 1922 and the general strike of 1926 respectively caused a temporary expansion of school feeding on a great scale—approximately half a million being fed, mainly on a soup kitchen basis. About 1929 the great depression struck the world, and in the special areas of distress, particularly, school meals were urgently needed. A strongly criticized administrative decision was made in 1934, when it was decided that to satisfy the law a child must be not only poor, but must also be suffering from some degree of malnutrition in order to be eligible for a meal either free of charge or at any less charge than the cost of the unprepared food. Efforts were made to turn this decision to advantage by the encouragement of medical surveys to detect malnutrition and by this means to persuade more Authorities to put the Act into operation, or to increase the provision under it.

In 1938 the first dietitian was appointed to the Medical Branch of the Board of Education. Her report, written in 1939, revealed many unsatisfactory features of the provision of school meals in both its social and nutritional aspects. In many cases the quality, quantity, and cost of the food were low, and the dining conditions unsatisfactory. It is nevertheless fair to say that the majority of Authorities devoted considerable effort to making the provision of meals a means of improving the nutrition of school children in the lowest income groups, and to insure, through nutrition surveys, that none were too ill-fed to take advantage of their education.

Thus, at the outbreak of the recent war, attention was directed mainly to the provision of free meals, usually dinners, for under-nourished and necessitous children in the Public Elementary Schools.

The provision of school meals underwent a transformation in policy and scope during the war years. The wartime change to a general service of midday

[1] Presented at the 30th Annual Meeting of the American Dietetic Association, in Philadelphia, on October 16, 1947.

dinners, intended for the benefit of all school children, sprang from three main factors. First, the domestic ration took no direct account of school children's special needs. Second, bombing and the movement of the population led to a wide development of civic catering facilities, in which children's needs were best met by school canteens. At the same time, the employment of married women rendered school meals a matter of necessity for many children. Third, the policy of Family Allowances would be enhanced as soon as practicable by benefits in kind in the form of free meals and milk.

The result has been the development of a service which is now catering daily for about 2½ million children, or 50 per cent of the school population. The change which has taken place in the School Meals Service during the last war can only be described as a social revolution.

In England and Wales 21,000 school canteens have been established, and a proportionate number in Scotland. Some of these are in new, prefabricated huts which form kitchen, servery, and dining room; others are held in school halls or classrooms where the children have their lessons. The meals may be prepared in a kitchen built at the school, or may be sent in insulated containers from Central Kitchens situated some distance from the schools. A number of canteens are operating in hired halls, and a good many are used not only by one school but by a group of schools. Altogether these 21,000 canteens serve 25,000 schools, and as there are 29,000 state schools in England and Wales, only 4,000 schools are not yet provided with canteens.

Through this large system of canteens about half of the children (roughly 2½ million) attending state-aided schools receive dinner at school. The aim at present is to expand the service so that every school will have a canteen and at the same time to replace the makeshift and improvised arrangements set up in the early days of the war. The school meals program has had up to date almost the same priority for labor and building materials as housing. At the moment there are 800 canteens in the course of construction which, when completed, will make provision for a further 250,000 children.

The ultimate aim of the School Meals Service is that it should take its place alongside the Welfare Foods Service and the School Milk Service as an adjunct of Family Allowances. In the end, school meals will be free of charge, just as school milk has already been made free. It is anticipated that meals will not be made free, however, until there are facilities available for feeding all children desiring meals at school.

At present the usual charge for dinners is 5d. (8.4 cents in United States money), but about 15 per cent of the children are receiving meals free of charge. A good many more are having meals at reduced prices, in fact the average amount paid is 3½d. (6.7 cents). The gross cost of the meal is about 10½d. (18.4 cents), and the amount spent on food just under 6d. (10 cents).

This year the operating cost of the School Meals Service in England and Wales will be £23 million ($92,805,000), toward which the parents will contribute £7 million, leaving £16 million to come from public funds.

Prior to 1941 the school canteen rations were about the same as those supplied to restaurants for adults and were not adequate to form the main meal of the day for children. The Minister of Food promised in the summer of 1941 that when facilities for school meals were provided, sufficient food would be made available. Consequently, in 1942 special allowances, which were sufficient to provide dinners of the highest nutritional value, where allocated to school canteens. These rations are specially designed to provide for a concentrated type of meal of high-fat and high-protein value. In the case of meat the allowance works out at over 2 oz. per meal; the rate for fat is ½ oz. and for sugar ⅔ oz. In addition to rationed foods, every canteen is entitled to a most valuable allowance of 1 oz. dried skim milk per pupil, which greatly increases the proportion of animal protein. The ascorbic acid content of the meal is safeguarded at present by the use of orange juice jelly. These are a few of the items which help to make the school meal of first class quality. For the older children the aim is to provide a meal of about 1000 calories and for the younger about 750 calories.

The following menus, extracted from a menu book in use in a rural canteen, are typical of the type of meals the school children are enjoying:

SUMMER	WINTER
Bacon and egg pie Mashed potatoes and greens Semolina mould Orange jelly	Roast meat Baked potatoes Peas Steamed Sultana pudding
Cold roast beef Baked potatoes Salad with dressing Hampshire crumble Custard	Brown mince Roast potatoes Watercress or cabbage New treacle tart Custard
Baked savoury roly poly Mashed or new potatoes Gravy Green salad Stewed fruit Custard	Liver and bacon hot-pot Parsnips and carrots Mashed potatoes Orange rice or Semolina pudding
Roast meat Yorkshire pudding New potatoes Peas Trifle	Boiled or roast mutton Dumplings *or* savoury pudding Gravy Potatoes Mixed root vegetables Raw carrot Macaroni or barley flakes pudding and orange juice jelly
Haricot mutton Boiled potatoes Carrots Semolina tart Custard	

GIVING MILK THE GREEN LIGHT!

WHEN MILK IS A VITAL PART of the daily regimen, such as in infancy, childhood, pregnancy, and for gastro-intestinal, postoperative and geriatric conditions—a serious aggravation of the dietary problem may occur for those patients who (either for physiologic or psychologic reasons) are unable to ingest this essential nutrient.

In such cases, the *red light* of milk refusal may be quickly changed to the *green light* of eager acceptance—by transforming the liquid milk into deliciously flavored, tasty rennet desserts, through the medium of rennet powder or household rennet tablets.

Young and old alike relish these temptingly smooth custard-like desserts which incorporate the uncooked milk — with all nutritional factors unchanged — into a variety of delicious, colorful rennet desserts. They're so simple to prepare—and are more easily digested than milk itself, because of the softer, more friable curds formed in the stomach.

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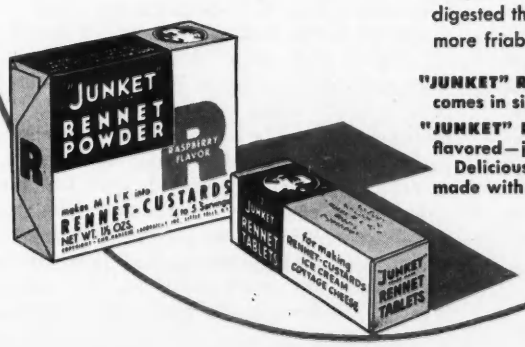

"JUNKET" RENNET POWDER — already sweetened — comes in six popular flavors;

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Delicious, highly acceptable rennet desserts may be made with either.

"JUNKET" BRAND FOODS
Division of Chr. Hansen's Laboratory, Inc.
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Cheese salad	Bacon and potato roll *or* liver and bacon
Potatoes	Gravy
Baked jam roll	Potatoes
Custard	Raw Swede
	Ginger oatmeal pudding
Cottage pie	Custard
Potatoes	
Gravy	
Green vegetables	
Steamed date pudding	
Custard	Beef steak and kidney pudding
	Spring greens
Meat and vegetable pie	Boiled potatoes
Potatoes	Stewed prunes
Watercress	Custard
Stewed fruit	
Custard	
Stewed meat	Steak pie
Potatoes	Carrots
Carrots	Parsley sauce
Raw Swede	Potatoes
Baked fruit cake pudding	Raw Swede
Custard	Fruit mould

ORGANIZATION OF THE SYSTEM

The service has been built on intimate cooperation between the central and local government. The public system of education is carried on by the local governmental authorities of the counties and large towns which form, altogether, 145 Local Education Authorities. The School Meals Service is conducted as part of the educational system; therefore, the creation of the 21,000 canteens now in existence has been the work of the Local Education Authorities.

As long ago as 1914 the central government gave the Authorities a 50 per cent grant for school feeding, and when it was decided in the war to expand the service as quickly as possible the grant was increased to about 80 per cent. The government also pays all the capital costs for equipment and buildings. Finally, this year, the government is paying all the operating costs as well as the capital costs, subject to certain safeguards. It is an extremely interesting feature of the relationship between central government and local government that the latter is allowed to carry out this large and complicated catering service at the entire expense of the central government funds.

The School Meals Service is administered at the central office in London by the Special Services Branch, which is also responsible for school milk and the school medical services. There is a staff inspector of school meals, who, with fourteen expert colleagues, is responsible for inspecting the arrangements made by the Local Education Authorities. In addition, all of His Majesty's Inspectors of Schools take a keen interest in the service from the educational angle.

In the counties and towns each Local Education Authority is required to employ an organizer of school meals, holding high qualifications and possessing good experience. Under the chief education officer the organizer is the responsible technical officer of the service. The duties are numerous and include planning the development of the system, the appointment and training of canteen staff, the purchase of food, and menu making.

The teachers have played their part manfully in making the service a valuable social and educational influence in the school. It is impossible to estimate what the School Meals Service owes to their skill and ingenuity. The significance of the help so freely given by the canteen staffs must not be overlooked. A feature, too, of the Service is that many of the children's mothers are employed, either in the kitchens or as assistants in the dining rooms. This link between the school and the home is encouraged.

PHYSICAL LAYOUTS AND EQUIPMENT

In 1943, in order to speed up the expansion of the service, standard plans for canteens in prefabricated huts were prepared by the Ministry's senior architect and dietitian, in collaboration with the Ministry of Works. Local Education Authorities were able, and in fact still can, order a complete canteen to be erected by the Ministry of Works, instead of doing the building work themselves, as was the case prior to 1943. As soon as it is finished the canteen becomes the property of the Local Education Authority. This is a further example of the link between the central and local governments.

The standard plans cover a wide range of sizes, beginning with the small canteen at the village school accommodating forty children, to the central kitchen which is usually found in the more densely populated urban areas, where no fewer than 2000 meals are produced daily. From the central kitchen, meals are delivered in heat-retaining containers to schools in the vicinity which are not fortunate enough to have their own kitchens. Frequently the reason for this is that the school site is so restricted that there is no room for the erection of a canteen.

The Local Education Authorities are also helped by the arrangement which began in 1942 for all the canteen equipment required for public services to be ordered from the Ministry of Works. This Ministry places bulk contracts with the manufacturers for all the items required in a canteen, and consequently it is possible for Local Education Authorities to order from the Ministry of Education catalog everything from a tin opener to a steam raising plant.

CONCLUSION

In spite of the crisis in Britain, the School Meals Service is still being vigorously pursued. The ultimate goal will not be reached until provision has been made for all children desiring to have dinner at school. The goal is to provide over 4 million meals a day, or 75 per cent of the school population. To date, two thirds of the ground has been covered, which, in view of the destruction caused by bombing

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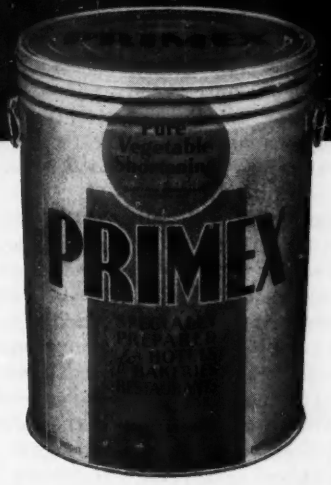

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THE SHORTENING THAT SETS THE QUALITY STANDARD

and the difficulty of securing buildings and equipment, is no mean achievement.

The author has requested that the following acknowledgments be made: "(a) A paper on the History of School Meals given by Dr. Glover at a National Conferences of School Meals Organizers, held in London in May, 1946; (b) School Meals and Milk, by Mr. Marris, Ministry of Education, 1947; and (c) Report on School Feeding by E. M. Langley, Ministry of Education, 1939."

SCHOOL LUNCHES IN THE UNITED STATES[1]

MARGARET M. MORRIS

Chief, Technical Services Section, School Lunch Division, Production and Marketing Administration, U. S. Department of Agriculture, Washington, D. C.

School lunches are fast becoming an integral part of American community life. Parents and teachers are seeing the tangible results of nutritionally planned lunches in the light of children's health, and they are telling what they see to school and government administrators so that there will be no stopping of these programs. Federal, state, and local officials realize that parents and teachers know whereof they speak and consequently, school lunch people are hard at work to put their ideas into action.

School lunch programs really began during the depression of the thirties. When wage earners were thrown out of work, many civic groups organized school feeding programs with the help of teachers. Children were hungry—hollow hungry—when their fathers' pay checks stopped coming. The federal government assisted with so-called "surplus foods" and with labor, through work relief projects. Community resources were so meager at the time that most programs did little more than stave off hunger. It was only by chance that lunches at that time included a good balance of the needed nutrients. But enough lasting good came from these depression-born programs to make people realize their worth when war brought scarcity of food, instead of abundance.

The foundation for the present form of federal assistance to school lunch programs was laid in the spring of 1943. The foods that had been purchased by the Department of Agriculture for distribution to schools were by then going to military camps and for Lend Lease. A plan for reimbursing school authorities for part of their local food expenditures was developed by the Department and approved by Congress. After trial operation of the reimbursement plan for three years, the 79th Congress passed the National School Lunch Act. It became Public Law 396 when the President approved it on June 4, 1946.

The Act authorizes the appropriation of funds for administration and for food and nonfood assistance, the latter being defined as equipment. For the present fiscal year, however, Congress appropriated no money for the purchase of equipment by local programs. The total federal fund made available is $65 million, and Congress warned that it would not look favorably on a request for a deficiency appropriation.

This law makes possible a grant-in-aid program to assist the states in "the establishment, maintenance, operation, and expansion of nonprofit school lunch programs." Typical of grants-in-aid in the United States, it provides for the performance of a service on a nation-wide basis and the furtherance of national policy. In this case, the state departments of education are the agencies designated to assume responsibility for carrying out this program administered by the Department of Agriculture. The Act indicates that the program affects the national security because it provides for safeguarding the health and well-being of the nation's children and for encouraging the domestic consumption of nutritious agricultural commodities.

The main provisions of the law which refer to this dual purpose are found in Section 6 and Section 9. Section 6 charges the Department of Agriculture with direct purchase of food for distribution to schools in accordance with needs. The foods purchased under this authority are chosen carefully to provide nutrients that are likely to be missing in most areas of the country. The schools benefit from a monetary standpoint, too, because, although they are given foods that can be fitted into the Type A lunch, their reimbursement is not decreased. Section 9 places the responsibility for setting nutritional requirements for the lunches in the Department of Agriculture. This section also states that schools shall use, insofar as practicable, foods designated by the Secretary of Agriculture as being in abundance and those which are donated by the Department. Underlying these provisions is the basic working philosophy of the Department of Agriculture—namely, that production and distribution geared to consumption by a well nourished citizenry will help to alleviate some of our economic problems by providing larger markets for farm products. If children develop the habit of eating the combinations of foods that make up a good diet, an improved pattern of eating will be reflected in adult life. The farmer will benefit when all Americans receive adequate milk and the other protective foods as their daily fare.

The Type A lunch, although a balanced meal, emphasizes milk and other protein-rich foods. This has been particularly necessary because of the scarcity of these foods during the war and their subsequent high costs. Because many youngsters have not received adequate amounts of these foods in their homes, these particular requirements in the school lunch take on great significance. The requirements set up by the Department of Agriculture, therefore, should be viewed as minimum. School

[1] Presented at the 30th Annual Meeting of the American Dietetic Association in Philadelphia, October 16, 1947.

MORE AND BETTER PINEAPPLES IS THE AIM OF PRODUCERS

Home Economists can tell their listening and reading audiences that more Dole Pineapple Products will be available in the months and years to come. This cheering news is based upon improved planting, cultivating, harvesting, and packing methods which have been and are being perfected by the Dole Hawaiian Pineapple Company, Ltd., in Hawaii.

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One of the first important accomplishments in increasing production was contour planting. This method of having the rows of plants follow the contours of rolling land protects against soil erosion and subsequent wash-outs of young plants caused by unusual heavy rainfall. Such contour planting by the Hawaiian Pineapple Company is said to be the largest operation of its kind ever undertaken by private enterprise.

Weeds which grow so fast in Hawaii they might stifle the pineapple plants, if not destroyed, have been controlled by tractors which straddle the rows and spray a weed killer at ground level on both sides of the plants. The former method of keeping men everlastingly weeding was often too slow to be 100% effective. Likewise, microscopic parasites which are destructive to the roots of the pineapple plant have had their activities minimized by a traveling fumigant rig. This rig has a sharp blade which cuts through the soil and at the same time applies by pressure a new soil fumigant called "D-D" beneath the surface.

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To determine the proper type and correct balance of soil fertilizers, a continuous study of the color of the pineapple leaves is maintained in Dole fields and laboratory. Already this leaf study has resulted in a gain, in test areas, of nearly two tons of fruit per acre.

Improved methods of handling and packing the fruit at the great Dole Cannery in Honolulu are also being introduced with gratifying results. The procedures and innovations just mentioned are only a few of many designed to produce more and better Dole Pineapple Products.

Invitation to Home Economists

Home economists who visit Hawaii will receive a cordial welcome by the Hawaiian Pineapple Company and are invited to view the Dole operations in the fields and cannery. Those planning such a trip are requested to write Patricia Collier, Dole Home Economist who will gladly advise them of whom and what to see. Address her at the Hawaiian Pineapple Company, Ltd., 215 Market Street, San Francisco, California.

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UPSIDE-DOWN ROLLS

Want something new to tell your listening or reading audiences? Here it is – quick and simple. Arrange Dole Pineapple Chunks in buttered-and-brown-sugared muffin pans. Then drop in balls of sweet yeast dough. Bake and serve . . . fragrant and warm . . . Chunk-side up, of course!

It's really fun to work with pineapple. There are so many exciting things you can do with it. All you have to do is give your imagination free rein. And I've found that lots of these interesting new dishes—fruit cups, salads, meat and vegetable dishes, and desserts of all kinds can be made with ingredients on hand quickly and easily. I'll keep you posted on our discoveries for using Dole Sliced, Chunks, Tidbits, and the New Crushed. Just watch these pages—you'll be the first of our great reading audiences to see them.

Patricia Collier

Dole Home Economist

lunch authorities should strive to provide lunches of even higher nutritive value.

In discharging its responsibility in Section 6 of the Act, the Department of Agriculture purchases nonfat dry milk solids for school lunches. Schools in milk-deficient areas may obtain the nonfat milk solids for reconstitution as a beverage. Any school participating in the federal assistance program may use it in cooking. Schools where milk is used only as nonfat solids are encouraged to make every effort to obtain additional amounts of vitamin A-rich foods in their lunches.

Dried eggs are also being distributed to school lunch programs. They are purchased under the Agricultural Adjustment Act. Recipes for the use of dried eggs have been developed by the Bureau of Human Nutrition and Home Economics and by the Poultry and Egg National Board and distributed to state agencies. It is urged that they be used in cooking to enrich other foods, but not as scrambled eggs or omelets. Incidentally, the schools will be taking part in an important agricultural development in using dried eggs. Normally, surplus eggs are dried during the peak production periods.

Concentrated orange juice is a product distributed to schools by the Department of Agriculture which has wide acceptance. Recent developments in processing have made reconstituted orange juice a food to be relished. The use of concentrated orange juice in school lunches carries out the dual purpose of the law, for improved nutrition results from the consumption of ascorbic acid and an important agricultural commodity is marketed.

The improvement of nutrition is a long-time proposition and one that must be developed from various angles. There is no *one* approach. The school lunch can rightly take an important place as a measure to raise the nutritional level of the United States. The federal government has taken the first two steps (a) by providing funds and food, and (b) by setting a basic lunch pattern known as "Type A." The national program can be truly effective only if local programs are supervised by people who know how to plan and prepare lunches that are based on this pattern and that children will eat. Supervision is a function of state and local governments and agencies. Many of them already have taken steps to carry out their part by employing persons trained in nutrition and food service management. The trend is in the right direction, but much still remains to be done. A program of national scope cannot be expected to achieve its objectives in every part of the nation perhaps for many years.

The Conference Committee on Agricultural Appropriations in Congress indicated that the state governments must assume increasingly greater responsibility for the school lunch programs. This means that state legislatures must appropriate funds for the development of programs. It means also that school districts must give lunch programs their proportionate share of budgets. Spotted around the country are examples of state and local leadership and active support of programs that can be the pattern for other areas.

This spring representatives of the National Council of Chief State School Officers and the Department of Agriculture met together to formulate some basic principles and procedures for cooperation between states and the federal government. It was agreed that state agencies would assume, as rapidly as possible, certain functions heretofore performed by the Department of Agriculture. These are: (a) administrative review of operations and (b) the audit of funds. State agencies that can provide sufficient qualified personnel to make reviews "on the school premises" will keep the Department of Agriculture currently informed of the status and progress of local programs. In states where this cannot be done for one reason or another, the Department of Agriculture will continue the practice of sending representatives to the local schools. It must be remembered that these reviews of school lunch operations are to further the purposes of the law—to guard the public interest in seeing that wise use of agricultural products is made toward improving the nutrition of the nation's children. The reviews are not inspections but rather a means of helping schools to improve their programs.

Each state submits a plan of operation to the Department of Agriculture, indicating the manner in which the program is to be conducted. The plan gives information regarding supervision, finances, and procedures. An acceptable plan must be developed before an agreement can be negotiated between the state agency and the Department of Agriculture. When signatures have been affixed to the agreement, the state receives its quarterly share of the federal funds.

In this program, as in other grants-in-aid, the states are required to match federal funds. The matching funds may be acquired from various sources within the state, public or private, and may include the payments children make for their lunches. However, Congress has indicated that hereafter a larger proportion of the matching funds must come from state appropriations. Only a few states have established funds for school lunch programs and none are anywhere near being adequate.

Last year approximately 8 million children in about 50,000 schools participated in the school lunch program. The law specifies a formula for the allocation of the funds so that states with a large child population and a low per capita income receive a higher proportionate share. Some states will receive less federal money this year than they did last because of a change in their wealth. If the states wish to continue as many or more programs than last year, reimbursement rates may have to be re-

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duced. The maximum rate of reimbursement set by the Department of Agriculture is 9 cents for the Type A lunch; but a state may lower this rate if it is in the public interest. States are encouraged to adjust rates so that programs in lower income areas will receive more than those where incomes are higher.

It should be emphasized that the National School Lunch Act is enabling legislation which permits Congress to appropriate funds as it deems necessary to assist the states. Community initiative has been the keynote of this program. States must, therefore, take the lead in helping local groups develop programs that meet community needs. Federal financial assistance will be on the decrease, for the law requires that state matching must be done according to a three to one ratio after 1955.

As in most activities, the returns are usually in relation to what is put into them. The public will get the best use of federal funds when all the states take a more active part in financing and supervising school lunch programs. The interest of parents, teachers, and school administrators, as well as professional and civic groups, will determine the extent to which state agencies expand and improve their programs. All of us have a responsibility in making a personal and group contribution toward improving the health and well-being of children, which is unquestionably an objective of school lunch programs. Let us not be reticent in meeting this challenge.

JOB TRAINING FOR SCHOOL LUNCH EMPLOYEES

MARY M. GRIFFIN

Assistant Supervisor of Home Economics in Charge of School Cafeterias, Board of Education, Newark, New Jersey

This is a report that tells the story of job training for the school lunchroom employees of Newark, where we have a centralized system with twenty-six lunchrooms—seven in high schools, three in junior high schools, and sixteen in elementary schools. Each high school has a full-time manager. There are also three itinerant managers, each responsible for six school lunchrooms. In such an organization, it is necessary that certain procedures be uniform throughout the system, and in order to achieve "our way" of doing things, we have found it necessary to give a limited amount of in-service training to our employees.

You might rightly ask if our only objective in this program is to instill uniform practices which lead to a more efficient operation. Actually, it is much more far-reaching. We endeavor to give each employee an understanding of the fact that the school lunchroom, while maintaining the health and vigor of children, also teaches proper food selection, good health habits, and everyday social usage, and indirectly influences the food habits of parents.

The general objectives of our job training program are:

(a) To give an understanding of the services the lunchroom renders to the community.

(b) To endeavor to make the school cafeteria a cheerful, restful place for faculty and students in which to enjoy good food and wholesome companionship.

(c) To stimulate an interest in nutrition through food preparation and service.

(d) To develop desirable personality traits necessary for participation in a group enterprise.

(e) To acquire knowledge and skills and to perform the tasks which demonstrate a sense of responsibility to the supervisor.

(f) To develop a desire for good work habits, high standards of sanitation and safety, and the highest quality of food preparation.

Our problem was how to incorporate these objectives into a program with participating members of such wide differences in age, education, experience, and work assignment. The age range of our approximately 160 employees is from 22 to 70 years. Educational background varies from a few who have had no formal education to those managers with B.S. degrees. The majority of our group are housewives, with no large quantity food production or service experience, but there are others who have had varying amounts of experience in commercial establishments.

The work assignment also varies. One cook may be in a unit serving forty, which necessitates her doing the preparation, serving, cleaning, and record keeping. Others are assigned to larger units and may have only two or three definite tasks daily. Therefore, we must train the general worker to do all phases of food production and service, so that she may be prepared to be transferred from one unit to another as the need arises.

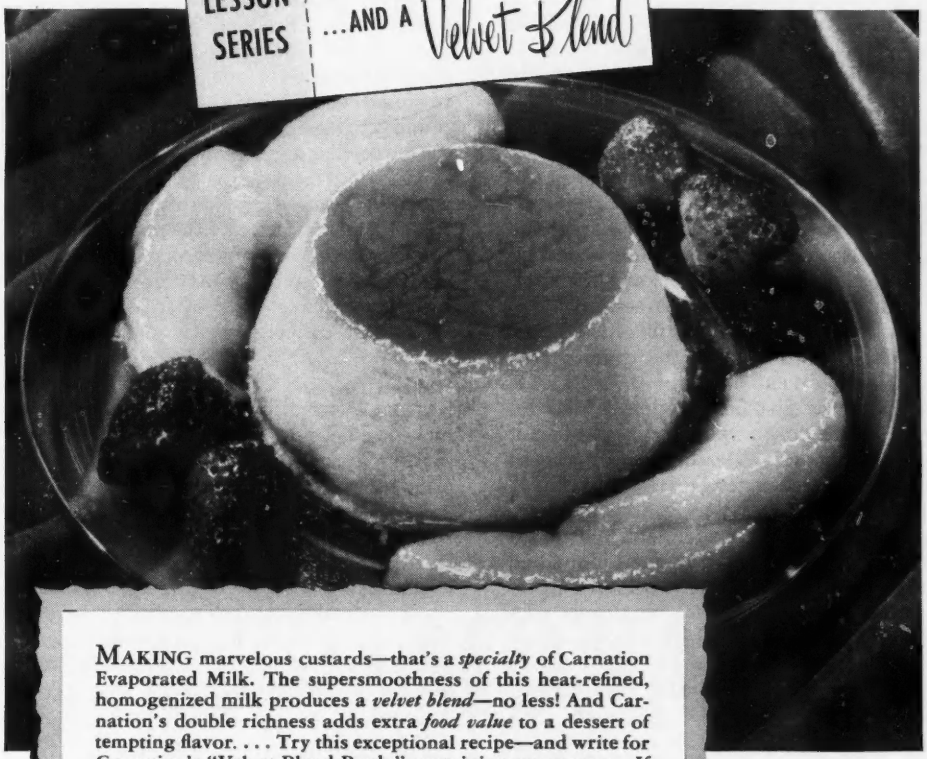
Distances from schools where employees work to the one chosen for the training program involves a transportation problem which necessarily limits the number and length of meetings. Our employees are paid for a full ten months and report on September 1, although schools do not open until the first Monday after Labor Day. During this pre-school period we are able to give two or three days of intensive training. The program is scheduled according to work assignments or group classifications, and affords a real situation, for the employees are served a luncheon, the menu of which is wholly or in part made up of items demonstrated during the morning session. All-day meetings have the added advantage of enabling employees to observe a unit in actual operation.

Throughout the school year meetings are held for

[1] Presented at the 30th Annual Meeting of the American Dietetic Association in Philadelphia, on October 15, 1947.

LESSON SERIES

HOW TO ADD MILK RICHNESS ...AND A Velvet Blend



MAKING marvelous custards—that's a *specialty* of Carnation Evaporated Milk. The supersmoothness of this heat-refined, homogenized milk produces a *velvet blend*—no less! And Carnation's double richness adds extra *food value* to a dessert of tempting flavor. . . . Try this exceptional recipe—and write for Carnation's "Velvet Blend Book," containing many more. If you'd also like a *quantity* recipe (serving 48) for Velvet Caramel Custard, mention it when you write . . . . *Carnation Company, Dept. 755-F, Milwaukee 2, Wis.*

VELVET CARAMEL CUSTARD

3 eggs
¾ cup sugar
¼ teaspoon salt
1 cup boiling water
½ teaspoon vanilla extract
⅛ teaspoon nutmeg
1⅔ cups Carnation Milk, undiluted

Beat eggs, ⅓ cup sugar, and salt together. Blend in Carnation Milk. Add boiling water, vanilla, and nutmeg and stir thoroughly. Sprinkle remaining sugar into bottoms of six custard cups and place in moderately hot oven (400° F.) to caramelize sugar. Remove from oven and pour uncooked custard mixture into cups. Set cups in pan of hot water and bake in a slow oven (325° F.) approximately 40 minutes or until an inserted knife comes out clean. May be garnished with fruit and whipped Carnation Milk. Serves 5.

FOR A Velvet Blend...USE

"From Contented Cows"

groups, such as high school cooks, elementary cooks, salad makers, or any cross-section of workers we may choose. These meetings are scheduled from 3:00 p.m. to 5:00 p.m. in one of the school lunchrooms. Managers' workshops are scheduled once a month from 3:00 p.m. to 5:00 p.m. at one of the high school lunchrooms. Attendance at all meetings is expected from the employees. Although they are not reimbursed for transportation costs or for overtime, we feel they are compensated in other ways.

You ask, how do you plan the content or curriculum with such ever-present problems? We believe that the development of this material is a matter of concern to the managers, to the employees, and to the administrators. The plans and the procedures must be developed in terms of the needs, problems, abilities, and the resources of our immediate group. The managers discuss with their employees their needs and desires for training and forward this information on a duplicated form to the central office. Added to these reports are suggestions of the supervisors. From these two sources, the training program is planned and executed.

For example, at the first fall meeting of 1947 for managers and general workers we first discussed—not lectured on—the responsibilities of our department to the child, to the teacher, to the Board of Education, and to the community. It was done in a very simple way so that all could understand. This led into the topic of the importance of each individual in the organization doing her share. All reports had stressed the need of talking with the employees with respect to helping each other and to calling a moratorium on the phrase "it isn't my job."

To unify practices in all lunchrooms, several demonstrations of routine jobs were presented. We found that the most effective way to introduce a procedure was for the demonstrator to dramatize some of the methods she had seen used in the lunchroom. The audience was especially amused when the demonstrator said: "This is the way you have taught me." Simple directions were given as the demonstrator worked at a slow rate of speed, emphasizing each detail of operation. When she felt that all had observed the essential techniques, she completed the operation at a normal rate of speed. The demonstrations given were to show "our way" of chopping vegetables; cleaning and storing lettuce, celery, and parsley; making bread-and-butter sandwiches; making three types of sandwiches; serving of desserts; and handling glassware and silverware.

Following the demonstrations, the group was divided into six sections of approximately twenty persons each with a manager as a leader. While three of these sections were served luncheon, the other three groups rotated to watch their co-workers demonstrate the proper techniques for cleaning a refrigerator, counter, and a dish machine. As soon as the demonstrations were completed, these three groups went to lunch while the demonstrations were repeated for those who had finished eating. This plan of dividing into groups accomplished two things.: First, it was possible for all to see the demonstration at close range. Second, it facilitated the problem of serving this number of people quickly, using the minimum amount of equipment.

The groups reassembled for a discussion of the importance of personal cleanliness and grooming. We emphasized the policies in regard to the wearing of hairnets, uniforms, aprons, and no costume jewelry. Time was allowed at the end of the meeting for a question and answer period.

The day's meeting for the cooks followed the same general pattern, except for the demonstrations. For them, demonstrations of the preparation of one soup, three entrées, two cakes, and vegetables were included. The cleaning procedures taught were for a range and a bake oven. For other meetings during the current school year, the same general outline is being used with fewer discussions and demonstrations.

From observation, we had found that employees lacked efficiency in performing everyday routine tasks. Hence, many of the demonstrations cover elementary procedures. Many work hours are involved in these operations, and if we can shorten the time involved, we can also decrease the labor cost. In every demonstration whenever possible, the following points were stressed: good work habits; safety measures; sanitary handling of the item; use of proper tools; the application of some nutrition teaching; standardized portions; curtailment of cost; the evaluation of the finished products in terms of appearance, color, and flavor; and the method of service.

Believing that the resources, knowledge, skills, and abilities of our co-workers should be given recognition, we have them participate in the demonstrations. True, if judged by the professional person, the demonstrator would rate as an amateur; nevertheless, the dividends paid in employee satisfaction are worth the less polished performance.

We find that the use of visual aids in the form of plate lunches is one of the best methods of developing standards for attractive plates. Since the elementary school menu is uniform throughout the city, we choose two or three plates that are to be served during the following weeks. While the instructor is discussing certain aspects thereof, the plates are passed among the group in pairs, one of which is typical of our standards for portion size and properly prepared food, while the other plate is most inferior.

Outside speakers, such as a representative of our insurance carrier and of the city safety council, have added to the interest of the program. We hope during the current year to bring in representatives of other groups to discuss with us such topics as nutrition, flower arrangements, and purchasing.

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Monarch French Style Carrots and French Style Beets offer your guests two nourishing, colorful vegetables in a fresher tasting, easier-to-eat form. They're economical to serve, too. They require no cleaning, no peeling, no slicing, no cooking. Just open the tins and serve. You'll agree they're finer than you'd have time to prepare in your own kitchen. They'll thrill the palate of every guest you serve.

In addition to the French Style, Monarch Carrots are packed Kurly Kut, Quartered, and Sliced. Monarch Beets are available in French Styles, Kurly Kut, Sliced and Small Whole.

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As aids in our training program we have in each school a standard recipe file and a set of cleaning procedure cards. Procedure books giving general instructions and policies of the organization are distributed to each manager to be used as a guide.

We endeavor to use the workshop method for our managers' meetings. We believe that leadership is needed for guidance and direction. However, the democratic method and approach where we can achieve decisions by the group implies group understanding and consent and is more effective than decision by authority alone. The score cards for rating sheets, monthly reports, counter sheets, and cleaning procedure cards now in use are the result of group thinking and decision and are, therefore, more widely accepted and more meaningful.

The managers may work on projects as a group or in committees. At each workshop one manager reports on holiday decorations and menu suggestions for the following month. Two or three articles from current publications are reported monthly.

The major undertaking this year is the revision of our recipe file. Not having a test kitchen with specialized personnel, we make every unit a testing laboratory and every manager responsible for a given set of recipes.

Judging contests are another feature of our workshops. Just as if she were going to a country fair, the manager comes laden with a product, for example, a cake, cookies, or muffins. Appearing on a table with only a number for identification, the products are scored by each one present. We find this an excellent method of teaching managers what is expected in the way of a standard product. Other topics that may be discussed are merchandising, nutrition, work simplification, job specifications, new menu suggestions, and cost control.

Another training device is the planning of menus for the elementary schools. Each month a committee, composed of the assistant supervisor, an itinerant manager, and three cook managers, plan together the following month's menus. This gives them an opportunity to exchange ideas and to feel that they have a part in the total planning, and at the same time we are able to emphasize government requirements for the Type A lunch as well as cost control.

We endeavor throughout the year to make it possible for all high school managers and itinerant managers to visit all the high schools in the system and at least one commercial cafeteria. Written evaluation reports are sent to the central office for tabulation, and the findings are in turn discussed at the managers' workshop.

It is only at the level of each unit that the training lessons can be adapted to the individual needs and abilities. Success is achieved only when we have instilled in every manager the fact that the quality of the day-by-day job training she does is the most important part of the program.

New Uses for Sweet Potatoes

Experiments at the Alabama Agricultural Experiment Station has shown that a variety of new types of foods can be made from sweet potatoes. Thus far, sweet potatoes have been used in three forms: (a) as the fully cooked purée to make brittles; (b) as a flour produced by grinding the cooked and toasted product; and (c) as the purée in soft candies, although the quality from this method is said to be not very good.

In candies, combinations of sweet potatoes with other foods have proved most acceptable and palatable, for instance: sweet potatoes with coconut alone, with coconut and orange, with coconut and wheat germ, with coconut and corn germ, and with coconut and soybean meal.

The new flour, which is called "Altamalt," is an entirely different product from dehydrated sweet potato flour. It is prepared by drying and toasting the pulp of baked sweet potatoes followed by grinding, while dehydrated sweet potato flour is made by reducing the dehydrated product to a flour by use of a hammer mill.

Up to the present, at least, the flour has found more uses than the purée. It has successfully been incorporated into a number of candies, including pecan rolls, pralines, coconut bars, peanut bars, and similar products, as well as in the cream centers of caramel, pineapple, coconut, peppermint, and maple candies. Other uses include milk shakes and ice cream.

The flour can also be used as an ingredient in fruit cakes, layer cakes, southern brown bread, cookies, biscuits, muffins, and pies. Icings, too, can be made from the flour. In cakes, the flour may replace a portion of the eggs, butter, and sugar without any loss of color, flavor, or texture, and at considerable savings in cost. Cakes made from it are said to have an extremely fine texture and to hold moisture about twice as long as an ordinary cake.—*Food Industries 19: 1205, 1365 (Sept., Oct.), 1947.*

Doctor? Lawyer? Merchant? Chief?

What will these babies be 25 or 50 years from now?

Many things and many people will shape their lives, of course. Parents, home, friends, teachers. And one big factor will be health.

Fortunately, babies born today enjoy far more chance of good health and long life than their parents or grandparents did. For example, only 30 years ago, one baby out of every 10 died before its first birthday. Today, the rate is less than one in 20. And over the same period, the average span of human life has lengthened from about 55 to 66 years.

This priceless gift of life and health has come largely through the skill and research of the medical profession. And nutrition has played a part.

Good eating contributes to good health. Our knowledge of what to eat and when and why has vastly increased in recent years. It will grow even faster in the years ahead—aided by research in great laboratories like those of National Dairy. There, National Dairy men and women work constantly with milk, *nature's most nearly perfect food*—protecting its quality—creating new foods and products from it.

As medical and nutritional research advance together, they carry the hope of healthier citizens, a stronger nation, and a better world.

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Book Reviews

A Scientific Basis for the Design of Institution Kitchens. By Orpha Mae Huffman Thomas. New York: The author (Teachers College, Columbia University), 1947. Paper. Pp. 75. Price $3.

The author has condensed her dissertation for the Ph.D. degree to make this basic and singularly significant research available. This reviewer knows of no other reported study on this subject that has contributed so much fundamental knowledge, applicable wherever an institutional kitchen is being planned. The publication should be included in the reference library of dietary departments, equipment manufacturing concerns, and schools teaching institution management.

Dr. Thomas has a broad background of academic preparation and practical experience. Her undergraduate training prepared her to teach mathematics and science; later she added a master's degree with a major in institution management. She has taught in this field while she continued graduate study. As a candidate for the doctor's degree at Purdue University she was fortunate in having the guidance of Dr. Lillian Gilbreth, an outstanding efficiency engineer with a keen interest in the management problems of homemakers and dietitians.

Dr. Thomas states her thesis as follows: "It is the purpose of this study, through the application of industrial methods, to establish a scientific procedure for the design of institution kitchens. This will include the development of criteria for ascertaining the pieces of equipment needed for institution kitchens in connection with the production demands placed upon that equipment, and for the establishment of the arrangement of such equipment that will result in the maximum output with the minimum amount of labor."

The introduction gives a brief summary of the growth and present status of the food service industry. Dr. Thomas includes an excellent outline of the various types of food service establishments, both competitive and non-competitive. The preliminary steps involved in organizing a food service operation and the application of industrial practices to these operations are discussed.

Of greatest interest to the managerial dietitian and the equipment engineer are the methods of assembling data and procedures for developing the design and layout of an institutional kitchen. These include a study of the methods followed, the equipment used, and the personnel involved in the preparation of typical food products in a large institutional kitchen (Teachers College Cafeteria, New York City). Process charts were used to trace each of these products through the various pieces of equipment in which it was produced. Records were kept of the machine volume or space required, and the time for processing. Data on the total usage of each major piece of equipment for each of the typical products prepared were collected and summarized. This summary is given in the publication.

An illustration, carefully followed through, shows how the procedures described could be applied to determine the equipment requirements for an institution kitchen serving 500. This part of the dissertation is particularly pertinent and informative. It should be studied by anyone who is charged with planning an institution kitchen.—*Katharine W. Harris, head, Department of Institution Management, New York State College of Home Economics, Cornell University, Ithaca.*

Diseases of Metabolism. Edited by Garfield G. Duncan M.D. 2nd ed., rev. Philadelphia: W. B. Saunders Company, 1947. Cloth. Pp. 1045. Price $12.

The first edition of this book was reviewed in this JOURNAL, Volume 18, page 318, 1942. In most cases the original authors have prepared the revisions, but the section written by Tracy D. Cuttle, M.D., on diabetes in childhood and adolescence was revised by Perry S. Macneal, M.D., instructor in medicine, Jefferson Medical College, Philadelphia. Two new chapters are included: one on disorders of the thyroid gland by Alexander W. Winkler, M.D., assistant professor of medicine at Yale University, and one on diseases of the kidney by Max Miller, M.D., senior instructor in medicine at Western Reserve University and Joseph M. Hayman Jr., M.D., professor of clinical medicine and therapeutics at Western Reserve University. The chapter on nutritional and metabolic disorders of the blood has been rewritten, and the chapter by T. D. Spies, M.D., and Hugh R. Butt, M.D., on vitamins and avitaminoses has been brought up to date, including a brief discussion of folic acid.

More complete bibliographies have been included in this revision, although references have necessarily been limited to those which the authors considered most important and comprehensive.

In a few instances, expressions such as "during the past five years," which obviously dated from the earlier edition, have escaped correction. In general, however, the new edition has been carefully brought up to date to the time of writing. This important book will continue to serve as a valuable reference for teacher, student, and practitioner.—*Hazel M. Hauck, professor of food and nutrition, New York State College of Home Economics, Cornell University, Ithaca.*

The Basic Cook Book. Rev. ed. By Marjorie Heseltine and Ula M. Dow. Boston: Houghton, Mifflin Company 1947. Cloth. Pp. 740. Price $3.

This is a revision of *Good Cooking* which appeared originally in 1933. In fact, it seems as if the revision is an entirely new text, with the word "basic" as the keynote. To this end, even the jacket of the book is suggestive of its contents, with its unusual coloring as well as the art work indicating the general tone of the subject matter.

As a cook book, it can be used by a beginner interested in developing skill in cooking fundamental foods. It aims to help the interested but unsophisticated person, yet has much to offer to the more experienced cook.

The text might also be used very satisfactorily as a teaching guide. As one peruses its pages one thinks, "The authors know the details necessary for class room instruction."

The general organization of the book varies from the customary form of cook books, and the presentation of recipes is especially clear cut. The designer, by using three different

Fast and Fancy Fixin's by Mary Hale Martin

FOR THE *PEAK* IN PINEAPPLE PERFECTION . . . ALWAYS GET LIBBY'S *PEAK FLAVOR* . . .

SLICES, CHUNKS, CRUSHED AND JUICE!

During the war, pineapple was so scarce many of us have forgotten the wonderful things we can do with the *various ways* pineapple is packed. So here's a little "brush-up" on pineapple tricks . . . all performed, of course, with the pineapple that is picked *only* at the very peak of flavor perfection. That's Libby's, remember.

Let's begin with "juicy ideas" Libby's wonderful natural Pineapple Juice starts our "brush-up." (*This* year we can expect more juice than slices . . . because of a dry spell in Hawaii that reduced the number of big "slicing pines.") Did you ever cook apple slices in Libby's Pineapple Juice? Add a few raisins, chill . . . and that simple dessert becomes something special. Chiffon-type pies, sherbets, gelatin salads, fruit whips and punches are all wonderful made with Libby's peak-flavor Juice. (It's *natural* juice, you know, sweetened *only* by Hawaii's sun.) And here's a *jelly* recipe you mustn't miss:

PINEAPPLE JELLY

3 cups Libby's Pineapple Juice
6½ cups sugar
1 bottle liquid pectin (1 cup)

Combine pineapple juice and sugar. Bring to a boil. Add pectin, stirring constantly. Bring to a full rolling boil and boil ½ minute. Remove from heat, skim and pour into sterilized glasses. Paraffin at once. Makes eight 8-oz. glasses.

Before leaving "liquid pineapple," here's a reminder: when you're making a salad of any fresh fruits that darken on standing . . . apples, bananas, peaches and such . . . dip them into the pineapple *syrup* from a can of Libby's and they'll keep their color.

Stunts with chunks For an appetizer of distinction, wrap Libby's juiceful chunks in narrow strips of bacon. Secure each with a toothpick, and broil. They're delicious! Or, if you have some skewers you're proud of (wooden skewers do nicely, too) try this: push four or five chunks on each skewer (narrow side first for best design). Brush with butter, sprinkle with brown sugar. Broil until lightly browned and serve as a delectable garnish on the meat platter.

Crushed Pineapple should be a standby on the pantry shelf Libby's Crushed Pineapple can make a world of difference . . . turn an ordinary dish into an *extra*-ordinary one. For instance, add it drained to rice custard pudding; add it to the bread stuffing of pork chops; top candied sweet potatoes with its golden goodness; serve it hot over ham slices. And try this Hawaiian nut bread:

HAWAIIAN NUT BREAD

2 eggs
⅓ cup sugar
⅓ cup melted fat
2 cups sifted all-purpose flour
3 teaspoons baking powder
1 teaspoon salt
1 cup chopped nuts
1 cup Libby's Crushed Pineapple

Beat eggs and sugar together; add fat. Sift flour, baking powder, and salt together. Add dry ingredients to first mixture and blend. Add nuts and pineapple (do not drain). Stir just enough to combine. Pour batter into a greased pan (4"x 8"). Bake in a moderate oven (350°F.) for 1 hour. Makes 1 medium size loaf.

Have you ever made the "fragrance test"? Do you want to know how to *tell* if pineapple has been picked *full ripe?* Open a can of *Libby's* glorious golden slices, for instance. As you pour off the juice, notice the aroma. Sweet and fresh . . . the "perfume of the Hawaiian sun," we call it. Nothing can make that aroma (and that flavor!) but the sun's own magic. *Libby's* Pineapple always ripens to the fullest . . . to *peak flavor*. And the rich fragrance proves it.

After you've tried the fragrance test, you might make this delightful Libby salad.

SNOW BALL SALAD

1 No. 2½ can Libby's Sliced Pineapple
1 green pepper
Salad greens
1 3-oz. package cream cheese
½ cup coconut

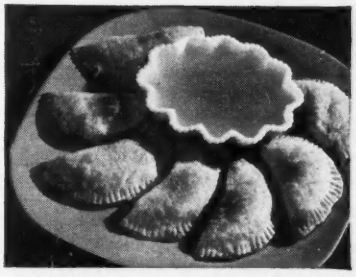
Place drained pineapple slices on salad greens. Remove stem and core from the green pepper and cut in thin rings. Place a ring on each slice of Pineapple. Fill the centers with cream cheese to which 2 tablespoons syrup from the pineapple has been added. Top cheese with coconut. Serve with desired dressing. 8 servings.

Now how about an old-fashioned ham loaf up-side-down style? Sprinkle ⅓ cup of brown sugar over the bottom of the loaf pan. Arrange slices, centered with a maraschino cherry, over the sugar. Top with your ham loaf mixture, bake and serve fruit side up.

Pineapple is also a wonderful way to dress up the less expensive meat cuts and poultry. For instance, you can make your left-over chicken into salad and heap each serving on a pineapple slice. Or serve the salad in a bowl topped with pineapple slices . . . the center of each stuck with toasted almonds and ringed with pimiento. *That's* for a real party!

Now, here's a gem for the class in biscuit making:

PINEAPPLE TURNOVERS



1 recipe rich baking powder biscuits or
1 recipe pie crust
4 No. 2½ slices Libby's Pineapple
2 tablespoons butter or margarine
⅓ cup sugar
½ teaspoon cinnamon

Roll biscuit dough to ¼ inch thickness, pie crust to ⅛ inch. Cut into 8 circles approximately 6 inches in diameter. On one side of each circle place a half slice of drained pineapple. Dot with butter and sprinkle with cinnamon and sugar. Dampen edges with water and fold other half of circle over pineapple. Crimp edges together with a floured fork. Place on a cookie sheet. Bake in a hot oven (450°F.) for approximately 20 minutes. Serve hot with thickened pineapple syrup. Makes 8 turnovers.

When buying pineapple, remember to look for *Libby's*. It's picked at *peak flavor!* Libby's will not be *super*abundant this year, but you'll find it in many, many stores.

type faces, achieved pages which present individual recipes in unusually readable and usable form.

The ninety-six-page supplement is unique and has value as an aid in buying, cookery methods, and table settings. The meat carving illustrations are also very helpful. The tables and tips for testing foods when "done" are comprehensive and valuable.

This book follows a unique plan. It is encyclopedic but not cumbersome. There is a generous amount of cookery information available between the two covers of the book, and it can be an asset on any kitchen book shelf.—*Ada B. Lothe, dietetic supervisor, Milwaukee County Institutions, Milwaukee, Wisconsin.*

The Modern Luncheonette. By Ernest M. Fleishman. Stamford, Conn.: Dahl Publishing Company, 1947. Cloth. Pp. 157. Price $4.00.

All experienced restaurateurs are acquainted with the author or have heard of him as a past director of the National Restaurant Association, or in his present capacity as treasurer of the New York State Restaurant Association, Inc. Mr. Fleishman has grown up in the restaurant business, from fountain boy to his present position as vice-president of D. A. Schulte, Inc., New York City. Therefore, he is well qualified to write with the voice of authority and experience. In a previous book, *How to Cut Food Costs*, and in this book, he generously shares his wealth of knowledge and experience in a direct and understandable manner.

To the thousands of people who enter the food service business with no experience and only a burning desire to succeed, Mr. Fleishman has dedicated this book. To that purpose it is written in non-technical language and includes all the practical and technical knowledge of modern luncheonette operation. Each of the thirty-eight short chapters pertain to one phase of work, such as the selection of a location; selection, installation, and operation of equipment; financing; personnel requirements; and sanitary laws relating to food establishments.

After a warning concerning the many requirements and the hard physical labor necessary to become a successful food operator, the reader is then taken by the hand and led carefully, step by step, thru each phase of planning to the opening and operating of a modern luncheonette which will provide joy to patrons and financial success to the owner.

The need of hiring a good cook is stressed. However, the author would have been well advised, this reviewer believes, to have added some advice on the merits of building a collection of standardized recipes including size of servings and food costs. These should be dated so that comparative costs could be determined when necessary and prices changed accordingly.

Since we are again in a buyer's market and customers may once more become somewhat selective, it would prove worth while for even the experienced operator to review this book, checking his own operation and making improvements when necessary in his standards of operation—improvements that would profit both patron and operator.—*Mary Lowell Schwin, consultant in home economics, Chicago, Illinois*

Collection on Menu Making. *Little Gold Business Books.* Stamford, Conn.: The Dahls, 1947. Twelve pocket-size paper booklets packaged in an open-front box. Price $3 per set.

This is one of a series of boxed sets on various subjects pertaining to cookery and food service. The collection on menu making contains booklets covering breakfast, dinner, and luncheon menus, seasonal ideas, party and holiday menus, a dictionary of menu terms and a handbook of weights, and quantities and standards for quantity cookery. One may disagree with occasional statements, such as the advice to use only white eggs for boiling and poaching which is given in the manual on food standards, but taken as a whole the set contains hundreds of excellent ideas and much valuable reference material in a form readily available for constant use by the food service administrator.

One booklet contains more than a hundred suggestions for plate combinations, with listings made according to seasons when the foods are available and also according to plate arrangement for "color-appeal." Ideas from restaurant menus comprise one booklet. The ideas are good but prices are out dated and in the light of the present, the food costs given are sometimes amazing. The collection of international recipes by the staff of the *Woman's Home Companion* is interesting reading from the original English Banbury cake recipe to the Chinese rice flour wafers on the last page. Another interesting volume is that which includes seasonal menu suggestions classified and listed not only according to season but for the East, South, and West.

Five other boxed assortments of *Little Gold Business Books*, comparable to the set on menu making reviewed here, have been assembled. The sets on *Soups—Salads—Sandwiches* and *Restaurant Operation* each include seven booklets; that on *Food Preparation*, twenty booklets; and those covering *Hotel Operation* and *Employee Training Manuals*, twelve booklets. These sets will appeal to those who like a variety of reference books covering a wide field, but many careful buyers will still prefer to make their own selection from the large collection of pocket size booklets published by the Dahls.—*Cora E. Kusner, chief dietitian, Colorado State Hospital, Pueblo.*

New Appointments, Veterans Administration

The following hospital appointments of dietitians (not previously announced) have been made by the Veterans Administration.

Name	Position	Location
	Branch No. 2	
Ethel Greenhouse	Staff Dietitian	Halloran, Staten Island, N. Y.
Patricia Kennedy	Staff Dietitian	Halloran, Staten Island, N. Y.
	Branch No. 3	
Mary Lowe	Staff Dietitian	Lyons, N. J.
Judith Wiedl	Staff Dietitian	Aspinwall, Pa.
	Branch No. 4	
Helen Kochanowicz	Staff Dietitian	Ft. Howard, Md.
Earlene Turner	Staff Dietitian	Richmond, Va.
Irene Zaladonis	Head Dietitian	Martinsburg, W. Va.
	Branch No. 5	
Maria Slonaker	Staff Dietitian	Murfreesboro, Tenn.
	Branch No. 9	
Marjorie Hollingshead	Staff Dietitian	Wadsworth, Kans.
Marilyn Meiners	Head Dietitian	Wadsworth, Kans.
	Branch No. 12	
Ann Malone	Staff Dietitian	Oakland, Calif.
Dorothy Stewart	Staff Dietitian	Van Nuys, Calif.

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COMPARATIVE AMOUNTS OF PROTEIN IN LEADING CEREALS (PER POUND BASIS)

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Whole Wheat	58 gms.
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Corn Flakes	39 gms.
Corn Meal	36 gms.
Rice Flakes	29 gms.

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Current Literature

Contributed by Janette C. Carlsen and Ethel M. Miller, Dietary Department, The Johns Hopkins Hospital; Lorraine G. Weng and Marian T. Straube, University of Chicago Clinics; Mrs. Quindara Oliver Dodge, Women's Educational and Industrial Union, Boston; and the Journal staff.

THE AMERICAN JOURNAL OF SURGERY

Vol. 74, September, 1947

*Present concepts concerning the care of the burned patient. W. E. Abbott and J. W. Hirshfeld.—p. 296.

Treatment of Burns. This article includes a discussion of the nutritional and metabolic problems of the burned patient. Except in cases of mild burns, food is usually omitted for 24 to 48 hr. Then the patient should receive a diet equal to 1.6 times his basal caloric requirement. Twenty per cent of this diet should be derived from a nutritionally adequate protein, and the vitamin intake should range from five to ten times the normal daily requirement. (This is especially true of ascorbic acid and the B-complex). After five to fifteen days the diet can be increased gradually, as tolerated, so that it will provide adult patients with approximately 3000 calories and 120 to 300 gm. of protein daily. Since water retention occurs, especially between the second to fourteenth day following a burn, and leads to a hemodilution, fluid intake should be restricted to 2000 to 4000 cc. daily.

ANALYTICAL CHEMISTRY

Vol. 19, September, 1947

* Amperometric determination of dissolved oxygen in orange juice. V. M. Lewis and H. A. McKenzie.—p. 643.
* Physical and chemical methods for characterizing peanut butter. J. F. Vincent and L. Z. Szabo.—p. 655.
Rapid digestion method for determination of calcium. O. E. Stamberg and D. W. Bolin.—p. 695.

Dissolved Oxygen in Orange Juice. The role of oxygen in the reactions causing flavor deterioration in canned orange juice has been investigated. For laboratory studies of the rate and mechanism of oxygen consumption by orange juice, and for the control of the oxygen content of the juice during processing operations, an almost instantaneous estimate of dissolved oxygen concentration is required. A polarograph procedure was developed which would give satisfactory results with canned juices. This paper contains a discussion of the procedure, by which a single determination can be made in about 1 min., apart from the determination of the residual current. Oxygen contents down to about 0.02 cc. per 100 cc. of orange juice are determined with a precision better than ±5 per cent.

Characterizing Peanut Butter. The national consumption of peanut butter now exceeds 2 lb. per capita annually. Progressive peanut butter manufacturers are realizing that more suitable laboratory methods are needed to assist in the maintenance of product quality and uniformity, and several methods have been developed for characterizing peanut butter. As "spreadability" and oil-separation characteristics of the product influence public acceptance to a great degree, these factors have received particular attention. This paper contains a description of quantitative procedures for the physical and chemical characterization of peanut butter.

ARCHIVES OF PEDIATRICS

Vol. 64, September, 1947

* A comparison of cereals and their value in the feeding of infants and children. R. A. Benson and F. T. Kimball.—p. 476.

Cereals and Their Value in Feeding Children. A comparative study of cereals commonly used for children was carried on to determine which cereals are to be preferred and what the basis is for the selection of a cereal. Twenty-five cereals are listed with their carbohydrate content. Rice seems to present a number of advantages over other cereal preparations for it shows a higher total carbohydrate content than wheat and oat cereals and contains less indigestible carbohydrate.

CANADIAN JOURNAL OF PUBLIC HEALTH

Vol. 38, September, 1947

* The heights and weights of a Canadian group. E. W. McHenry, R. Crawford, and L. Barber.—p. 437.

Heights and Weights. The problem of overweight was studied in Ontario, Canada. A group of 12,393 persons was studied which included applicants for life insurance, university students, employees of a public utility, employees of a textile factory, and drivers who gave weight and height information in applying for driver's licenses. The percentage of overweight persons was less in women under thirty years of age, but otherwise was about the same for various age groups in both sexes. Among persons over forty, 18 per cent were overweight; among persons under thirty, 13 per cent were underweight. Average heights for both sexes were slightly more than in 1912. Although the groups studied do not represent the population of Canada as a whole, the results obtained do aid in pointing out the necessity for education of the populace as to the dangers of overweight, especially in older persons.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

Vol. 135, September 20, 1947

Meat in the diet of infants. Current Comment.—p. 162.
Fluid balance in war edema. Current Comment.—p. 162.

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Vol. 135, September 27, 1947

Diabetes in a New England town. H. L. C. Wilkerson and L. P. Krall.—p. 209.
The progress of bread and flour enrichment. Editorial.—p. 226.

Vol. 135, October 4, 1947

* Imbalance and dietary interrelationships in nutrition. C. A. Elvehjem and W. H. Krehl.—p. 279.

Vol. 135, October 11, 1947

* A self-regulating feeding program for infants. C. A. Aldrich and E. S. Hewitt.—p. 340.
Fractionation of serum protein. Editorial.—p. 356.

Vol. 135, October 18, 1947

Iodine and table salt. Editorial.—p. 434.

Imbalance and Dietary Interrelationships. The optimum goal of the nutritional biochemist is the development of a diet which is balanced. Considerable data are available on one type of imbalance—that in which an insufficient amount of a nutrient is included in the diet. Such imbalance is reflected as a deficiency disease. However, there are other factors which are known to induce "imbalances" in nutrition; they are more difficult to explain than the mere omission of a specific required substance. For instance, it has been shown that certain chemical substances which have a structural relationship to various biological compounds may effect, on administration, specific signs of deficiency diseases. (Extensive evidence for the natural existence for such "inhibitors" is not available as yet.) Imbalance may also result from the presence of natural toxicants in food. The authors discuss these complex factors in some detail. The availability of calcium and phosphorus, the influence of fat, the relationship of carbohydrate to vitamin requirements, the role of proteins and amino acids, the activity of vitamins, and vitamin interrelationships are all considered. The discussion clearly indicates the new approach to nutrition research which has been influenced by the demonstration of the interrelationship between hormones and dietary constituents.

Self-Regulating Feeding Program. The care of 688 babies was supervised in well-baby clinics up to the time of the first birthday. All of the infants were on a self-regulating regimen, and records were kept with respect to feeding intervals chosen, appetite, and stature attained. The babies chose to lengthen their feeding interval gradually. A large majority desired an interval of less than 4 hr. in the first two months of life. (This observation indicates that a considerable group of infants will be poorly adjusted, as far as timing is concerned, if a rigid routine is followed.) At one year of age 91 per cent of the babies had placed themselves on a regimen of three meals a day; the appetites of 92 per cent were excellent, and the heights and weights of the babies compared favorably with the generally accepted standards.

THE JOURNAL OF BIOLOGICAL CHEMISTRY

Vol. 170, September, 1947

A critical study of proposed modifications of the Roe and Kuether method for the determination of ascorbic acid, with further contributions to the chemistry of this procedure. M. B. Mills and J. H. Roe.—p. 159.
* Factors affecting the growth of rats receiving niacin-tryptophan-deficient diets. L. M. Henderson, T. Deodhar, W. A. Krehl, and C. A. Elvehjem.—p. 261.

Rats and Niacin-Tryptophane-Deficient Diets. It is known that niacin and tryptophane are active in correcting the poor growth which results when rats are fed a niacin-low diet which contains corn or certain other supplements. This study was made in order to obtain further information on the growth-suppressing action of amino acids, proteins, and acid-hydrolyzed proteins on rats receiving a 9 per cent casein-sucrose, niacin-free diet. Supplements tested which showed ability to induce niacin deficiency included 2 per cent glycine, 2 per cent acid-hydrolyzed casein, and the crystalline amino acids contained in 2 per cent acid-hydrolyzed casein. When dextrin was the source of carbohydrate in the diet, the growth-depressing effect of glycine could not be shown. Under the experimental conditions of this study, indole-3-acetic acid and related compounds exerted no growth-depressing effect.

THE JOURNAL OF NUTRITION

Vol. 34, September, 1947

* A bioassay for proteins and protein digests. R. M. Tomarelli and F. W. Bernhart.—p. 263.
* Comparative nutritive value of casein and lactalbumin for man. A. J. Mueller and W. M. Cox, Jr.—p. 285.
* A study of the fasting-hour excretion of thiamine in the urine of normal subjects. E. Papageorge and G. T. Lewis.—p. 301.
The availability of vitamins from yeasts. III. The availability to human subjects of riboflavin from fresh and dried bakers' yeasts varying in viability. E. L. Price, M. M. Marquette, and H. T. Parsons.—p. 311.
* The availability of vitamins from yeasts. IV. The influence of the ingestion of fresh and dried bakers' yeasts varying in viability and in thiamine content on the availability of thiamine to human subjects. H. N. Kingsley and H. T. Parsons.—p. 321.

A Bioassay for Proteins and Protein Digests. A method of rat bioassay was devised which requires only two weeks to obtain results, requires a minimum of chemical analyses, satisfies the dictum that accuracy of bioassays is increased by comparing test samples with standard substance, and simulates the condition of the greatest usefulness of protein digests in human nutrition, i.e., tissue regeneration after a period of negative nitrogen balance. The assay is based on the determination under standardized conditions of the amount of protein or protein-digest nitrogen (ingested daily) necessary to maintain a constant weight in adult rats that have been partially depleted of body protein. Rats are fed a protein-free diet for one week. Groups are then fed varying levels of each test sample for the second week. The daily allowance or ration is proportional to the average surface area of the rats. By plotting body weight change during the second week against daily nitrogen intake, it is possible to interpolate the amount of nitrogen necessary to maintain constant weight in the partially depleted animal. Each test substance is evaluated by comparison with a casein standard.

Nutritive Value of Casein and Lactalbumin. The evidence obtained in previous studies has suggested that intact casein might be the nutritional equivalent of intact lactalbumin in man. The experiment reported here supports this belief. Four male adults were fed diets in which casein and lactalbumin contained 2 per cent of the calories. Following twelve days of protein depletion, two four-day periods of supplementation with each protein were alternated with four-day depletion periods. The daily determinations of caloric and nitrogen intake and urinary and fecal nitrogen indicated that casein and lactalbumin are equally effective in maintaining nitrogen balance in adult man.

Fasting-Hour Excretion of Thiamine. This investigation was made in order to compare the 24-hr. urinary excretion of thiamine with that of a 1-hr. specimen collected immediately after the completion of the 24-hr. period and following an overnight fast. Sixty-three young adults participated in the study. In order to evaluate properly the fasting-hour excretion test, a 4-hr. clearance test following an oral test dose of 1 mg. of thiamine hydrochloride was also made on twenty of the subjects. The 24-hr. test and the 1-hr. test compared favorably, showing good overall correlation. The correlation between the test dose return and

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the 24-hr. excretion was better than that between the test dose return and the fasting-hour output. It was concluded that the fasting-hour excretion test is a convenient method of estimating thiamine nutritional status in survey work. The results of this investigation indicate that the critical level of fasting-hour excretion of thiamine is about 4 mcg. Values lower than this suggest the probability of inadequate thiamine intake.

Availability of Riboflavin from Yeast. The degree of absorption of riboflavin of various yeasts from the digestive tract was judged by urinary excretions and, in some experiments, fecal outputs, in studies utilizing human bioassay methods. There was little or no absorption of riboflavin from the fresh, raw yeast and only partial absorption from two dried yeasts which contained live cells. The destruction of the viability of the yeast in three samples resulted in release of the riboflavin rendering it available for absorption. Fecal riboflavin eliminations were in a general reciprocal relationship to urinary excretions of the vitamin, indicating that when urinary excretions showed failure of absorption of the yeast riboflavin, fecal riboflavin was increased. Both unabsorbed riboflavin and intestinal synthesis appeared to contribute to increases in fecal riboflavin.

Availability of Thiamine from Yeast. Thiamine in an unfortified fresh baker's yeast ingested by human subjects was unavailable for absorption. Yeasts high in thiamine content, either from propagation or from fortification, yielded only a small proportion of their thiamine for absorption; in case of a highly fortified yeast, a much larger proportion of thiamine was released *in vitro* in comparison. The ingestion of a fresh, unfortified baker's yeast as a supplement to a weighed basal diet lowered the urinary output of thiamine and, therefore, apparently interfered with the absorption of food thiamine. Evidence is offered that live yeast cells in the digestive tract compete with the host for thiamine that is present.

MILBANK MEMORIAL FUND QUARTERLY

Vol. 25, July, 1947

* Nutrition in war and peace. F. G. Boudreau.—p. 231.
*New types of activity for nutrition services in public health. W. Wilkins.—p. 247.
*A modern nutrition program in a state health department. V. A. Getting.—p. 256.
*Suggestions on the organization and functions of state health department nutrition programs for workers. R. S. Goodhart.—p 261.

Nutrition in War and Peace. This paper was an address given before the Conference of State and Provincial Health Authorities of North America in Quebec City. The purpose was to show what opportunities exist for the public health officer who applies the new knowledge of food and nutrition to his district. The potentialities of better nutrition in human beings were discussed and the success which the United Kingdom had in its attempt to improve the nutrition of the British people was pointed out. In the discussion of the public health nutrition program itself, research and investigation were stressed. The school lunch and the diets of pregnant women and of industrial workers were emphasized as additional important constituents of a widespread nutrition program.

New Activities for Nutrition Services. Various types of activity for nutrition services in public health agencies are outlined. The Food and Nutrition Board of the National Research Council is a new project which has stabilized the entire field of human nutrition and has stressed the importance of nutrition as a health problem. The Nutrition Foundation and *Nutrition Reviews* have added to the attempt to get basic material on various nutrition problems. Such experiments as the food enrichment program and adding fluorine to drinking water are other new activities. California has developed a nutrition consultation service to state institutions, and the New York City Health Department has established the Nutrition Clinic. Schools of public health are offering more and better nutrition instruction to incoming public health personnel. Nutrition studies and surveys have resulted in the collection of considerable data on the food patterns in various communities, but no concentrated effort has been made to correct or improve the nutritional status on the basis of these findings. The author feels that the time has come to apply the results of these nutitional investigations on a comprehensive scale.

Nutritional Program in State Health Department. Some features of the nutritional program in the Massachusetts State Health Department are described. The program covers restaurant sanitation; school lunch and industrial cafeteria programs; and the preparation of pamphlets, exhibits, newspaper releases, talks, and other educational material. If the work of all agencies in the health field is coordinated, both on a state and local level, the community will benefit greatly. It is important that the public be encouraged to use the information made available to them.

Nutritional Programs for Workers. In developing a nutritional program for industrial workers, the state health department's first step should be a definition of the problem in terms of the prevalence and severity of malnutrition and the factors responsible for it. The next step should be an evaluation of the more important causes of malnutrition and measures for remedying them. The staff for carrying out such a program should be headed by a medical nutritionist who should have under him a number of nutritionists, a chemist, a laboratory technician, and nurses. The department should also maintain a c'ose relationship with universities and other research and teaching institutions engaged in nutrition work within the state.

NEW YORK STATE JOURNAL OF MEDICINE

Vol. 47, September 15, 1947

*Common sense in infant feeding and the use of vitamins. A. C. Silverman.—p. 1987.

Common Sense in Infant Feeding. Common sense in infant feeding implies maternal nursing. The reasons for the decline in breast feeding are considered and the need for re-education is emphasized. Maternal nursing as a dynamic process is stressed. The principles governing infant feeding and vitamin requirements are reviewed. In both maternal nursing and artificial feeding, cognizance is taken of the psychologic approach.

NUTRITION REVIEWS

Vol. 5, October, 1947

*Nutrition and dietetics. D. F. Turner.—p. 289.
Present knowledge of pantothenic acid in nutrition.—p. 291.
*Tocopherols and the prevention of gastric ulcers produced by dietary means.—p. 308.

Nutrition and Dietetics. Emphasis is currently being placed on the urgency for improved training of the medical student in nutrition. The author, in defining the term nutrition, points out that training is incomplete if it is limited just to instruction in the basic problems of chemistry and physiology that are involved in the needs of the body for food. The principles of nutrition must be translated into foods which are nutritionally appropriate, easily available, and acceptable to the patient. For this reason instruction in dietetics, "the combined science and art of feeding individuals or groups under different economic and health conditions according to the principles of nutrition and management," is just as vital as instruction in nutrition. The clinic or therapeutic dietitian in the hospital is in a position to make an important contribution to the training of the

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medical student, not only by teaching the basic principles of dietetics but also by vitalizing this teaching with demonstration teaching of the patients. With a new understanding of food composition and diets the medical student can further appreciate and investigate "nutritional" problems as he finds them in clinical experience.

Tocopherols and Gastric Ulcers. In experimental animals ulceration of the gastric mucosa may occur when the diet is deficient in protein, vitamin A, cystine, choline, riboflavin, pyridoxine, pantothenic acid, or calcium. Recent reports indicate that gastric ulcers are not the result of these deficiencies themselves, but occur when the essential nutrient is supplied to deficient animals. Examples are given which show that tocopherols will prevent the development of mucosal lesions under such conditions. It may be that the epithelium of the forestomach becomes abnormal in certain deficiency states, food intake decreases, weight gain ceases, and gastric secretion of pepsin and hydrochloric acid diminish. When the missing factor is given, there is an increase in secretion of pepsin and hydrochloric acid with which the epithelium cannot cope and ulcers result. The explanation is offered that tocopherols may prevent this process of erosion. These observations may be a means of studying the mode of action of tocopherol and the functions it controls in the digestive process. At the present time it cannot be assumed that the factors described in this paper are important in the causation of peptic ulcers in man.

SCIENCE

Vol. 106, September 19, 1947

*Application of "metabolite antagonism" to cancer research. D. M. Greenberg and M. P. Schulman.—p. 271.

Analytical determination of basic groups in amino acids and proteins. D. P. Grettie.—p. 277.

Vol. 106, September 26, 1947

Lactobacillus acidophilus counts in the saliva of children drinking artificially fluorinated and fluorine-free communal waters. S. B. Finn and D. B. Ast.—p. 292.

Vol. 106, October 3, 1947

*Plasma l-methionine levels following intravenous administration in humans. H. A. Harper, L. W. Kinsell, and H. C. Barton.—p. 319.

Vol. 106, October 10, 1947

Citric acid in saliva. I. Zipkin.—p. 343.

Oral efficacy of BAL in protecting rats against alloxan diabetes. A. Chesler and R. Tislow.—p. 345.

Vol. 106, October 17, 1947

Creatinuria in diabetics and an evaluation of methods for determining total creatinine. S. Caspe, B. Davidson, and J. Truhlar.—p. 371.

Metabolite Antagonism. Attempts are being made to find synthetic substances which are structurally related to essential metabolites, but which are incapable of duplicating the physiological action of the metabolites. The concept that such substances may interfere with the function of essential metabolites has been attracting widespread attention. Because tumor tissue grows more rapidly than normal tissue, it seems that it may be possible to interfere with the growth of the malignant tissue to a greater degree than with normal tissue by making use of an appropriate metabolic antagonist. The authors give a brief account of preliminary experiments in which the effects of several analogues of amino acids on tumor growth were observed. The final growth of the sarcoma was not affected appreciably by the administration of α-aminosulphonic acids. This experiment is being repeated with variations of the experimental conditions and with additional analogues.

Plasma l-Methionine Levels. The plasma methionine levels of eleven normal human male subjects were observed in connection with a study of the amino acid metabolism in hepatic disease. This paper describes the microbiological method used for the methionine determinations. It also gives the procedure for intravenous injection of a solution of dl-methionine, and for collection of blood and urine samples. A graph shows the rate of disappearance of intravenously administered methionine in a normal adult. The rapid initial fall in plasma methionine after intravenous injection is probably due to diffusion into the blood cells and extravascular spaces and to excretion. The more gradual decline in the later stages would seem to be a reflection of metabolic phenomena. Thus, plasma methionine levels observed 1 to 3 hr. after an intravenous injection are considered more significant in the interpretation of the response of various subjects to the test dose of methionine.

Citric Acid in Saliva. Until this study was made there was little positive evidence for the occurrence of citric acid in human saliva. The results listed in this paper indicate that the average male adult's saliva may contain 0.50 to 2.00 mg. citric acid per 100 cc. of saliva. Samples taken every 2 hr. throughout the day were essentially consistent. Further studies are contemplated on the relation of salivary citric acid to dental erosion and dental caries, for experiments have suggested that the citrate ion causes decalcification of dental tissues. Furthermore, it has been shown that citrate in practically neutral drinking fluids has a pronounced destructive action on dental tissues *in vivo*.

SOUTHERN MEDICAL JOURNAL

Vol. 40, September, 1947

*Observations in treatment of hypertension with rice-fruit diet. M. E. Flipse and M. J. Flipse.—p. 721.

Treatment of Hypertension. Dietary control of hypertension has been attempted in various ways. The work of Kempner and his associates at Duke University, in which a diet of rice, fruit, sugar, vitamins, and iron was used, aroused the interest of other investigators. This paper contains a report of the application of the rice diet in thirty-two cases of hypertension. Benefits from the strict diet were shown in twenty cases within a maximum period of six weeks. There was relief of chronic uremia and marked edema where other treatment had failed. Restriction of water was not necessary to obtain benefit. Ten of the patients maintained the improvement when the diet was modified with meats, vegetables, and even a small amount of salt. The diet is difficult to follow, and many failures result from poor cooperation. Harmful effects are primarily those of starvation in individuals who for various reasons do not take their full caloric requirements; such cases warrant discontinuance of the routine.

BAKERS' HELPER

Vol. 88, August 9, 1947

How can we train the bakers of the future? L. A. Rumsey.—p. 54.

*Know the ingredients you use. F. P. Graw.—p. 86.

Handling fresh or frozen sliced apples.—p. 98.

Composition of Dried Milk. Certain foods may not be used because we lack knowledge of their actual composition and characteristics. This article, which deals with dried whole milk, sweetened condensed whole milk, and malted milk powder, gives the U. S. government accepted definition, the composition, and substitution formula for each type of milk. In addition, the general uses and the correct methods of storage are discussed.

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Dietitian's Name.....

City.....State.....

HOSPITAL MANAGEMENT

Vol. 64, September, 1947

*Streamlined kitchen management. J. M. Melgaard.—p. 104.
The treatment and maintenance of concrete floors. D. E. Smalley.—p. 132.

Streamlined Kitchen Management. This paper presents an overall picture of the work of the dietitian in a small hospital. The author stresses the importance of systematic management and gives a work plan which covers food administration, food service, and maintenance. Suggestions are given which will aid the hospital dietitian in checking on the efficiency of her department. Attention is given to such topics as cost of food, payroll cost, overhead cost, labor, waste control, personnel health and accident prevention, menu planning, accuracy of work, and education. The discussion continues with suggestions on food preparation, quality of the food, rapidity of service, safety in handling food, cleanliness and neatness, cooperation with the nursing department, and cooperation with physicians and surgeons. Also mentioned are such items as general cleanliness, equipment, refrigeration, cooking areas, service areas, pest control, storerooms, garbage and waste disposal, and daily inspection and follow-up.

HOSPITALS

Vol. 21, October, 1947

*Food accounting system assists in the control of costs. E. M. Winger.—p. 66

Food Accounting System. Food cost accounting in the dietary department of a 300-to 350-bed hospital need not be complex. The dietitian should establish an adequate system herself, or at least work with the person who does. This review of the food cost accounting system used at the New England Deaconess Hospital stresses the qualifications and duties of the storeroom manager. The three forms which make up the perpetual inventory records are illustrated, the purchasing procedure is described, and the routine followed in issuing supplies is given. Finally, the method of computing the raw food costs is covered.

ICE CREAM TRADE JOURNAL

Vol. 43, August, 1947

20th century heraldry. W. H. East, Jr.—p. 48.
*Research. B. I. Masurovsky.—p. 70.
Defrosting. S. Ruppright.—p. 78.

Research on Ices and Sherbets. The acidity phase of fruit ices and sherbets governs the taste of the finished frozen product. Extra tartness requires an extra percentage of sugar. An optimum amount of sugar is also governed by the type of fruit used. In this article tests for acidity are listed, and the average acidity of fruits is given. It is recommended that an addition of citric acid or its equivalent be made to accentuate tartness. When needed, the citric acid is added at the end of the freezing process to prevent coagulation of the milk products used.

INSTITUTIONS MAGAZINE

Vol. 21, August, 1947

Defeat food cost bogey with a good system of controls.—p. 3.
*Grease filters help in fire prevention.—p. 39.
*How to sanitize custard-filled pastries by pasteurizing them.—p. 45.
*Latest in factory feeding.—p. 76.

Filters. The National Fire Protection Association recommends grease filters near the origin of the vapor in the kitchen. This prevents grease and dirt from reaching the ventilating system and protects the blower equipment. The newest filter is made of aluminum, maintains good appearance, is easily cleaned, and is made in several standard sizes.

How to Sanitize Custards. A method of pasteurizing or rebaking custard-filled pies to destroy bacteria that cause food poisoning is recommended by the Baltimore, Maryland, City Health Department for eclairs, cream puffs, Boston cream pies, and custard-filled doughnuts. The rebaking process includes placing the finished pastry in an oven at 425° to 450° F. for 20–25 min. or until the custard reaches 180° F. This is followed by immediate cooling. Iced products have icing added after they have been cooled.

Factory Feeding. The first section of the new cafeteria in the recreation building has been opened at Kodak Park, Rochester, New York. It features the all electric kitchen which, when completed, will serve 50,000 meals per day and will seat 3800. Backed by a staff of skilled dietitians and expert chefs, the cafeteria is a model for industrial feeding.

JOURNAL OF HOME ECONOMICS

Vol. 39, September, 1947

*The challenge of world food shortages. H. K. Stiebeling.—p. 396.
The school lunch program. D. I. Purdy, D. Breckenridge, R. Powell, and E. Kraft.—p. 407.

World Food Shortages. Dr. Stiebeling reviews the present desperate world food situation, telling of the many food shortages and of the work of the International Emergency Food Council in cooperation with the Food and Agriculture Organization of the United Nations. The effects of long-continued hunger are described, and a challenge is given to all peace-loving people to be alert to the meaning of food; to be thrifty in the use of it; to help lessen the demand for scarce foods and to make full use of relatively perishable foods; to keep ourselves informed in order that we may interpret the vital issues to others; and to make clear to those concerned that we are willing and able to manage with a little less.

THE MODERN HOSPITAL

Vol. 69, October, 1947

*The dietitian speaks. E. Perry.—p. 102.
Herbs in quantity cooking. A. Easton.—p. 104.

The Dietitian Speaks. Elizabeth Perry, who is co-chairman of the Public Relations Committee of the A. D. A. has written a paper worthy of the attention of all dietitians. Stressing the importance of good public relations, Miss Perry points out the various ways in which the dietitian can gain appreciation for her work and for her profession. The leadership the dietitian takes in her own department; her cooperation with other departments and professions; her contact with patients and with members of her community; and her participation in the work of her national professional organization, The American Dietetic Association, are all deciding factors in her success in gaining strength and prestige for her profession.

NATION'S SCHOOLS

Vol. 40, September, 1947

*Food sanitation. M. P. Horwood.—p. 56.

Food Sanitation. Primary essentials for a safe and sanitary dining service include an abundant, pure water supply and a safe milk and cream supply. Suitable handwashing facilities for employees are also necessary. Refrigeration is a very important factor to control. Raw and cooked foods should not be allowed to stand at room temperatures. With cooked foods, excess heat should be dissipated quickly, and then the foods should be refrigerated at once. Milk should be served in bottles and kept cold at all times to insure a temperature between 33° or 40° F. Storerooms

THIS little snake ornament is an Egyptian insignia that can be worn only by a public official who has been proved dependable. He wears it proudly in his helmet cap for all to see — for here is evidence of his worthiness.

MARKS OF DEPENDABILITY

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should be organized so that all food is kept at least 1 ft. off the floor; all grains and dry foods should be stored in metal containers with tight fitting covers. Vermin may be combated by spraying cracks and crevices with DDT solution. All doors, walls, steam traps, and vents should be ratproof. All equipment should be kept clean, and shelves should be free of food particles and lined with clean paper. Problems of food sanitation are complex. The solution to these problems lies in a complete knowledge of the principles underlying food sanitation and in rigid observance of these principles at all times.

PERSONNEL

Vol. 24, September, 1947

Facts and fallacies in personnel testing. M. M. Mandell.—p. 112.
*Reading the employment questionnaire. W. F. Wood.—p. 123.

The Employment Questionnaire. A method is suggested for analyzing the job requirements objectively and comparing them with the applicant's qualifications. It involves the preparation of a template for each job. Construction of the template is described and several illustrations of the template folder are included. Several advantages of this system of employee selection and placement are listed.

PRACTICAL HOME ECONOMICS

Vol. 25, October, 1947

Domestic science in Great Britain. K. Rhodes.—p. 504.
*Look at school lunch sanitation. R. Wagner, D. E. Nicoll, and M. L. Cronan.—p. 529.

School Lunch Sanitation. School lunch sanitation is viewed by a sanitary engineer, a supervisor of nutrition, and a school lunch manager. The sanitary engineer emphasizes the part played by the inspector of lunchrooms in helping the workers make the preparation and serving of food and drink a safe procedure. He also gives a brief summary of the more important aspects of sanitary food handling. Work habits and health habits, attractive, well-prepared food, and a clean lunchroom are the nutritionist's concern. The school lunch manager emphasizes the need for the cooperation of the local health inspector. She also feels the importance of checking on the health and work habits of her employees, the adequacy of refrigeration, dishwashing procedures, and the control of insects. With the proper cooperation, sanitation in almost any lunchroom can be improved.

WHAT'S NEW IN HOME ECONOMICS

Vol. 12, September, 1947

*Breakfast as viewed by health and nutrition authorities. P. J. Jackson and C. Schuck.—p. 52.
Food laws for protection. E. A. Wood.—p. 77.
Demonstration techniques applied to foods—equipment—home management classes.—p. 104.
*An all-school nutrition committee joins lunchroom to classroom. E. Maxwell.—p. 188.

Breakfast. In view of the fact that many people go without breakfast or eat an inadequate breakfast, the authors sent out questionnaires to people of national reputation in the fields of medicine, nutrition, dietetics, public health, and home economics to obtain their opinion on the subject. Three questions were asked: (a) What proportion of the day's caloric requirements should be provided by breakfast for a male or female adult engaged in heavy labor? In light work? In a sedentary occupation? For a child? For an adolescent? (b) What might be the harmful effects of the "no breakfast" or "light breakfast" habit? (c) What constitutes a "good breakfast"? The answers to this questionnaire indicated that an adequate breakfast is necessary if optimal nutrition and maximum working efficiency are to be insured.

All-School Nutrition Committee. The reasons for the existence of a school lunchroom are: (a) to provide good food for the students, and (b) to develop good food habits in the majority of the children both at school and at home. There must be cooperation between the lunchroom staff and the teaching staff to accomplish these aims. In Vanport City, Oregon, a system of committee representation has been worked out so that close cooperation between the two staffs is possible without handling a large group. Teachers are encouraged to use and report techniques which they find helpful in aiding children to broaden their food likes and eating habits. Standards for a good lunch have been set up by the lunchroom director, and other special interest committees in the school system aid in the project. For instance, the art department supplies posters and murals made by the students for display in the buildings. Exhibits of various foods, ingenuity in preparing unfamiliar foods, and study of less familiar foods in the classroom helped greatly in broadening the likes of the children. The committee members interpret teaching needs to the director, who then prepares teaching material for the teachers. The program has been successful, in spite of the large turnover of both students and teachers, which makes repetition of important points necessary.

Army Announcements Concerning Personnel

The following Medical Department Dietitians were promoted during October, 1947:

First Lieutenant to Captain

Davis, Helen M., R-649

Second Lieutenant to First Lieutenant

Bowman, Betty O., R-2482
Hayton, Marian J., R-2485
Ross, Oweta, R-2486

The War Department has released the following official list of names of Medical Department Dietitians (not previously announced) who have been separated from service:

Captain

Berger, Florence M., R-441, Glen Ullin, N. Dak.

First Lieutenants

Bourquin, Martha J., R-2460, 106 E. Holland St., Archbold, Ohio
Boyd, Virginia M., R-2415, Strafford, Kans.
Cobb, Wanda E., R-2036, 136 Oak St., Rutland, Vt.
Forbes, Enid, R-2327, 1023 N. Jefferson St., Mason City, Ia.
Granger, Jean L., R-2289, 623 Commercial St., Emporia, Kans.
Hultquist, Bernice E., R-2413, Box 406, Garfield, Utah
Muus, Orpha L., R-2405, 809 First St., N.E. Minot, N. Dak.
Rowe, Phyllis, R-2426, 84-1st St., Dalton, Mass.
Watcke, Beatrice M., R-2465, 1010 Nicholas Ave., Stratford, Conn.

Second Lieutenant

Olsen, Edna M., R-2450, 2302 Tower Ave., Superior, Wis.

The following Medical Department Dietitians, previously reported as separated from service, have been recalled to active duty:

Second Lt. Rose M. MacKellar, R-1900
First Lt. Mary S. Lowe, R-2010
First Lt. Thelma A. Harman, R-957
First Lt. Carolyn E. Smith, R-1064
First Lt. Mildred C. Stirratt, R-2407

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Any left-overs, split and toast!

How to make BANANA BRAN MUFFINS

Scaling weight for 1 muffin:—2 ounces (No. 16 scoop) 2 muffins per portion	5 lb. 2½ oz. mixture 40 muffins 20 portions	25 lb. 12 oz. mixture 200 muffins 100 portions
INGREDIENTS	**WEIGHTS OR AMOUNTS**	**WEIGHTS OR AMOUNTS**
Flour	1 pound (1 quart, sifted)	5 pounds (5 quarts, sifted)
Baking soda	½ ounce (1 tablespoon)	2½ ounces (5 tablespoons)
Salt	½ ounce (1 tablespoon)	2½ ounces (5 tablespoons)
Sugar	8 ounces (1 cup)	2 pounds 8 ounces (1¼ quarts)
Bran flakes	8 ounces (2 quarts)	2 pounds 8 ounces (10 quarts)
or		
Shredded bran	8 ounces (1 quart)	2 pounds 8 ounces (5 quarts)
Eggs	6½ ounces (4)	2 pounds (20)
Sour milk or buttermilk	½ cup	2½ cups
Melted shortening	4 ounces (½ cup)	1 pound 4 ounces (2½ cups)
Ripe bananas,* peeled	2 pounds 4 ounces (10 to 12)	11 pounds 4 ounces (50 to 60)

*Use fully ripe or all-yellow bananas

Sift together flour, soda, salt and sugar. Add bran and mix well. Beat eggs well. Add milk and shortening and blend. Add bananas, beating only enough to break them into small pieces. Add flour mixture, mixing only enough to dampen all flour. Bake in well-greased muffin pans in a moderate oven (375°F.) 30 to 35 minutes, or until muffins are done.

The bananas supply most of the liquid for these muffins. The batter is stiffer than usual for muffins.

If the 20-portion quantity is NOT made in a mixer, the bananas should be peeled and mashed just before they are added to the egg, milk and shortening mixture.

Brown-flecked-right for eating

Bananas help keep bread and cakes fresh and moist

Breakfast Menu

Orange Juice
Scrambled Eggs
Crisp Bacon
Banana Bran Muffins
Beverage

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News Notes

Approved Course Director Honored. On October 22, Irene L. Willson, Shadyside Hospital, Pittsburgh, was honored at a dinner in the staff dining room in celebration of her twenty-fifth anniversary as director of the dietary department. In appreciation of her service, she was presented with a wrist watch. In the course of her career, Miss Willson as director of an approved course for dietetic interns has trained fifty-seven dietitians, and, in addition, has supervised the courses in nutrition and diet therapy for many more student nurses. Miss Willson is past-president of the Pennsylvania Dietetic Association and also of the Pittsburgh Dietetic Association, and served as Hospitality Chairman at the time of the A.D.A. Convention held in Pittsburgh in 1943. She was the subject of a "profile" in the Pittsburgh *Post-Gazette* at the time of this anniversary.

New Dietitians Complete Training in California. Five dietetic interns completed training recently at the *Stanford University Hospitals*, San Francisco, and were honored at a dinner at which Dr. Anthony J. J. Rourke, medical superintendent, presented the girls with diplomas. Helen Hawver Anderson, director of dietetics, presented the pins. Graduates were: Audrey Johnson, Santiago, Chile; Helen Davidson, Kirkwood, Missouri; Ruth Sigler, Denver; Naomi Fenske, Sunol, Nebraska; and Helen Rosenfeld, Portland, Oregon. Miss Johnson has been in this country five years, having received her B.S. degree from Western Reserve University before entering internship. She has returned to Santiago, Chile, to work at the Santa Maria Clinica, and will be one of the first dietitians to work in Chile.

A class of five dietetic interns completed their training at *Alameda County Hospital*, Oakland, on July 1. They were: Mary Ewy; Alice Hines; Donna McNair; Angelica Castoro; and Doris Marie Goodman. The 1947–48 class numbers seven dietetic interns.

At a graduation tea given on October 2 at *Wadsworth General Hospital, Veterans Administration Center*, Los Angeles, nine dietetic interns received certificates. They were: Betty Jane Baird; Gwen Castle; Adelene Dorward; Virginia Gertmenian; Clara Kelly; Kathryn Tondreau; Ouida Weimer; Vivian Primising; and Billie June Naylor. Of the nine, seven have accepted positions as staff dietitians in government hospitals—six with the Veterans Administration and one with the Dietetic Section of the Women's Medical Specialist Corps of the Army. Two plan to be married. On October 1, a new class of eight interns began training at the Veterans Administration Center.

Diamond Anniversary of Home Economics at Iowa State. On October 24, the Division of Home Economics of Iowa State College, Ames, celebrated its 75th anniversary. Started in 1872 by Mary B. Welch, wife of the president of the college, the division has since grown from a staff of one to 135 and from an enrollment of a few to 1600. The course of lectures which Mrs. Welch first gave constituted the first course in home economics at any land grant college in the country. In 1877, an experimental kitchen for class use was opened—the first kitchen of its kind in the country, as far as is known. By 1911 the enrollment in "domestic science" course had grown so large that a building of its own was erected, and in 1913 home economics became a separate division. To date, Iowa State has awarded 6489 degrees in home economics, and all departments of the division, except physical education, offer work toward a master of science degree. Four offer work leading to a doctor's degree—Foods and Nutrition, Household Equipment, Institution Management, and Education through the Department of Vocational Agriculture.

At the anniversary celebration program honorary doctorate degrees were awarded to Dr. Hazel K. Stiebeling, chief, Bureau of Human Nutrition and Home Economics of the Department of Agriculture, and to Mabel Campbell of the class of 1905, who is a noted authority on vocational home economics education.

Attending the celebration were representatives of each class since 1902, as well as those for fifteen classes which graduated prior to that time. Only ten graduating classes were not represented—all of which were early classes for which no representatives could be located. The classes from 1916 to the present were represented by the presidents of the Home Economics Club.

Fern Gleiser, A.D.A. Treasurer, as former head of the Department of Institution Management, was a guest at the celebration together with other former heads of departments.

The program included addresses by The Honorable Chase Going Woodhouse, member of the 79th Congress, who spoke on "The Role of the Home and the Family in Formulating National Policies," and by Dr. Hazel K. Stiebeling, whose topic was "The Home Economist—A World Citizen."

New York Herald-Tribune Forum. Four members of the Greater New York Dietetic Association represented A.D.A. at the annual New York *Herald-Forum* held at the Waldorf-Astoria Hotel on October 21–23. They were: Mary Bloetjes, Alta Atkinson, Irene Fitzgerald, and Mary Ross. "Modern-Man: Slave or Sovereign?" was the general topic of the forum.

Material Available from A.D.A. Library. Publications and materials which may prove of value to dietitians are available to A.D.A. members from the Association's Library. Recent additions to the Library include:

(a) Two booklets prepared by the Veterans Administration: *Instruction and Guide for Meat Utilization and Fat Conservation. Hospital Dietetic Service.* Veterans Administration Manual M10-4; and *Summary of Refresher Course for Meat Cutters at McGuire Veterans Administration Hospital, Richmond.*

(b) A book, *The Preparation and Use of Visual Aids*, by Kenneth B. Haas and Harry Q. Packer.

(c) A report, *Conference Course Lectures on Management Controls in the Restaurant Industry*, published by the National Restaurant Association.

(d) *Equipment Operations Manual, 1947*, prepared by the University Hospitals, Oklahoma City.

(d) *Collection of Standardized Recipes*, prepared by the Bureau of School Lunchrooms, Chicago Board of Education.

Obituary. Word has been received of the sudden death of Emma L. Feeney, head of the Nutrition Department, Pratt Institute, New York City, on October 22. Services were held on October 25 at Ballston Lake, New York. With the passing of Miss Feeney, the dietetic profession lost one

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of its loyal workers and supporters. She was A.D.A. treasurer in 1935–36 and had served on a number of committees, including the Finance Committee in 1936–37 and the Nominating Committee in 1942–43.

Meeting of School Food Service Association. The Baker Hotel, Dallas, Texas, was the scene of the first annual meeting of the School Food Service Association on November 13, 14, and 15. The theme of the meeting was "Health Education Through Food Service." Special features of the program included trips to school lunchrooms and discussions of various types of food service, including school lunchrooms, residence halls, and commercial and industrial food services. On one day, the members of the Texas Dietetic Association were honored as special guests.

The officers of the School Food Service Association for the coming year are: President, Betsy W. Curtis, supervisor of lunchrooms, Board of Education, Cincinnati; President-Elect, Mary DeGarmo Bryan, supervisor of food service and professor of home economics and head of the Department of Institution Management, Teachers College, Columbia University; Secretary, Thelma G. Flanagan, state supervisor, School Lunch Program, Florida State Department of Education, Tallahassee; and Treasurer, L. A. Wiles, divisional director of the budget and school lunchrooms, Detroit Board of Education.

Frozen Food Foundation Meeting. Representatives of two dozen department stores and manufacturing organizations participated in the second annual meeting of the Frozen Food Foundation held at Syracuse on September 30. Problems and merchandising techniques, as well as opportunities for frozen foods in department stores were topics of discussion. Established two years ago, the Foundation now has a membership of more than fifty leading U. S. and Canadian department stores and industrial firms. Officers re-elected for 1947–48 are: President, Charles W. Folds; Vice-Presidents, Thomas W. Johnston and Harold J. Nutting; Vice-President and Treasurer, Donald French; Secretary, Gerald A. Fitzgerald; and Assistant Treasurer, John H. Baker.

National Conference on Family Life. The American Dietetic Association will be one of 110 major national organizations which will sponsor a National Conference on Family Life to be held at the White House on May 6 to 8, 1948. Plans for the Conference are being made through a board of directors, headed by Eric Johnston, president of the Motion Picture Association of America, with Boris Shishkin, economist of the American Federation of Labor, serving as vice-chairman. Sponsoring organizations include educational, health, legal, youth, social service, business and labor organizations, women's clubs, and religious groups of Catholic, Jewish, and Protestant faiths.

The American Home Economics Association is credited with first discussing such a conference in 1944. In 1945, the National Planning Association joined in efforts to bring together voluntary organizations, professional groups, and governmental agencies. These meetings led to the creation of a general steering committee. Financial backing was provided by the Women's Foundation, which is now providing the secretariat.

Awards in the Medical Field. The 1947 *Gorgas Award* sponsored by Wyeth Incoporated, was presented on November 15 to Major General Paul R. Hawley, chief medical director of the Veterans Administration. Dr. Hawley was chosen as the recipient of this award by the Association of Military Surgeons of the U. S. in recognition of the work he has done in reorganizing the Medical Service of the Veterans Administration. Under his administration, physicians and nurses of the VA have been removed from Civil Service control, and a policy has been established under which personnel, research services, and training of the large medical centers of the country have been made available to the government hospitals. The award carries with it a $500 honorarium.

At the midyear meeting of the *American Pharmaceutical Manufacturers' Association*, to be held December 15 to 17 at the Waldorf-Astoria, New York City, the American Medical Association will be presented with the ninth A.P.M.A. award. It is presented annually for a fundamental research contribution to public health in the field of drug therapy. Other recipients of the award have been: Mayo Foundation for Medical Education and Research, 1946; the Rockefeller Institute for Medical Research, 1945; the National Research Council, 1944; and Drs. Alexander Fleming and Howard W. Florey, 1943, for their discovery and development of penicillin. The award will be made in the course of a program where papers on the new fundamental progress in research of drug therapy will be presented.

Poultry and Egg Award Established. Announcement has been made that the Poultry and Egg National Board has received funds from Andrew Christie for the establishment of an annual award each year for the next five years. It will be known as the Christie Award and will consist of an honorarium of $500 and an appropriate scroll. The award will go to the person who, in the past ten years, has made the greatest contribution through research, teaching, or extension in the interpretation of scientific results or prosecution or research dealing with the determination, preparation, conservation, or improvement of the nutritive properties of poultry and eggs. Judging will be based upon contributions to the scientific literature or the interpretation of same. Also to be considered will be the subsequent use and commercialization by others from discoveries or findings of the nominee and his or her contributions made through press, radio, and speaker's platforms. Contributions must have served to enlighten the public regarding the value of poultry and eggs in the human diet and have served to increase the knowledge of the quality and nutritive value of poultry products. The first award will be presented at the annual meeting of the Poultry and Egg National Board to be held in Chicago in January, 1948.

Scholars in Medical Science. The John and Mary R. Markle Foundation of New York City has announced a new program of "post-fellowship" grants to enable young scientists to hold a regular faculty appointment and to conduct original research. The program will be conducted in cooperation with accredited medical schools in this country and in Canada. Grants of $25,000 payable to the cooperating school at a rate of $5,000 annually for a five-year period will be made toward the support of each successful candidate or his research or both. The young scientists will be known as "Scholars in Medical Science." Candidates will be recommended by medical schools and will be limited to young people with a particularly strong interest in research and teaching in any of the clinical or pre-clinical sciences or in the sciences basic to medicine. They will have had training in some special field or combination of fields to qualify them to receive a regular faculty appointment and to conduct original research. The final choice will be made, on the basis of the schools' recommendations, by regional committees appointed by the Foundation. No fixed number of Scholars will be appointed in any year, but it is expected that approximately fifty will receive appointments during the coming five-year period. For each Scholar, the school will determine salary and academic rank, encourage research by setting reasonable limits upon teaching and other non-research activities, provide laboratory facilities, and if necessary, make a financial contribution toward the support of his or her work. The purpose of the program is to attract much-needed talent to the field of academic medicine by giving promising young scientists academic security and financial assistance for a period up to five years.

ICEF Appointment. Dr. Henry F. Helmholz, chief of the Section on Pediatrics, Mayo Clinic, Rochester, Minnesota,

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has been granted a year's leave of absence to serve as chief medical consultant for Europe for the International Children's Emergency Fund of the United Nations. In this capacity he will visit Europe to ascertain the most urgent medical needs in the twelve European countries in which the ICEF is assisting the governments to provide a daily supplementary meal for about 3½ million children and nursing mothers through the present winter. He will be particularly concerned with the control of tuberculosis, venereal disease, diphtheria, and with nutritional and deficiency disease among children.

Science Talent Search. The importance of the 1947 science talent search, sponsored by the Westinghouse Educational Foundation and conducted by the Science Service and Science Clubs of America, was pointed up by a statement of President Truman's Scientific Research Board which recommended the establishment of a national system of scholarships and fellowships to alleviate the critical shortage of scientific manpower. Each year since 1942, more than 15,000 high school students have competed for $11,000 in science scholarships offered by the Westinghouse Educational Foundation. This year approximately 3500 boys and girls are expected to complete all entry requirements, forty of whom will be chosen as finalists and brought to Washington next March to attend a five-day Science Talent Institute, after which final selection will be made. Two four-year scholarships of $2400 each will be awarded as first prizes, followed by eight additional scholarships valued at $400. An additional $3000 may be granted at the discretion of the judges. Since the establishment of these scholarships in 1942, 177 boys and 63 girls have won scholarships with 1560 others receiving honorable mention certificates, a recognition that has often served as recommendation for scholarship award from various colleges.

Canadian Home Economics Meeting. The Palliser Hotel, Banff, will be the scene of the Canadian Home Economics Biennial Conference to be held next year on August 23 to 27. The publicity chairman, Ann Gillis, has requested the JOURNAL to extend to all dietitians a cordial invitation to attend this meeting which will take place in the heart of the Canadian Rockies. She assures us that an exceptionally interesting program is being planned.

Home Gardening Program for 1948. The minimum goal for home gardens in 1948 has been set at 20,000 gardens, according to an announcement by Secretary of Agriculture Clinton P. Anderson. In announcing this target, Secretary Anderson stated that "produce from freedom gardens can take the place of many foods vitally needed for export." It was pointed out that the current world food situation and the U. S. program to help meet the world's critical food needs requires a successful program of Freedom Gardens. A series of regional conferences to develop plans to insure maximum use of home gardens is planned, the first being held in the South in October, with others planned for other sections of the country at later dates.

Army Dishwashing Research. The National Sanitation Foundation was recently awarded a contract to conduct special research studies in dishwashing for the Army. The assignment undertaken by the Foundation will involve studies on test organisms, detergents, the effect of water hardness, soils, temperature of rinse waters and washing waters, and water flow. There will also be tests to determine the effects of different techniques on utensils, bowls glasses, and cutlery. A special machine will be built to enable the Foundation to conduct these experiments.

Recently, an article concerning the Foundation was published in *Woman's Home Companion*. Titled "Let's All Be Healthy," it pointed up the position of the Foundation as a focal point for publicity on the activities of public health people.

Temperature Important in Storing Canned Foods. In studies at the Massachusetts Experiment Station, it has been shown that heat, rather than light, is the cause of deterioration of color and flavor in home-canned foods during storage. In many tests, light has had no effect on canned food, but the warmth of ordinary room temperature has caused changes in color and flavor and loss of nutritive value. In various tests, colored foods, such as beets and raspberries, when stored at room temperature (70° to 80°F.) lost color and flavor, regardless of whether they were in the dark or on a shelf exposed to light. These qualities, however, were well retained when the products were stored at 42°F.

The scientists explain that oxidation is the cause of damages to color and flavor and destruction of some vitamins, especially ascorbic acid. Because more air may be left in jars during home canning than during commercial canning, home-canned foods may suffer more damage from oxidation. This is particularly true of such products as fruits which are given only a short process in a boiling water bath. Since oxidation is increased by warmth and retarded by cold, it is recommended that all canned foods be stored at temperatures below 70°F.

Use of Root Vegetables Urged. While cereal foods and meats are in critical supply this winter because of the food conservation program, the U. S. Department of Agriculture is recommending greater use of root vegetables in the nation's diet. Root vegetables offer a good source of energy, along with varying amounts of minerals and vitamins, plus bulk which adds a satiety factor. In addition, they are generally inexpensive and offer variety both in flavor and color.

Of the root vegetables, sweet potatoes rank first in caloric value, are a good source of vitamin A, and contribute some ascorbic acid. Irish potatoes supply about two thirds as much energy as sweet potatoes plus some ascorbic acid. Both can be used in many ways to replace flour and other grain foods. Other old-fashioned root vegetables, such as salsify or "vegetable oyster" and parsnips, provide considerable energy value. Onions are next in order in caloric value, followed by carrots and beets, rutabagas, and finally turnips.

News of State Associations

California Dietetic Association. The September meeting of the *Bay Area Section* was held at the Stewart Hotel, San Francisco, on September 16. Guest speaker for the evening was Kermit E. Goodger, director of personnel, Veterans Administration Branch Office 12, who spoke on training of employees. In October the group met at Highland Hospital, Alameda County, Oakland, and heard Richard Winfield of the Board of Education, San Francisco Junior College, speak on "Safety and Training."

Connecticut Dietetic Association. At its annual winter meeting on November 20, the Connecticut Dietetic Association celebrated its 30th anniversary. St. Raphael's Hospital, New Haven, was host at a dessert meeting which featured a birthday cake. A brief history of the association was one of the highlights of the evening, as well as a talk by Dr. Joseph Howard. He spoke on the practical aspects of diet therapy now in use. This talk was a follow-up of the reports on research work which had been given earlier in the day at a nutrition institute.

The Nutrition Institute was sponsored by the State Department of Health in cooperation with other agencies. Speakers included Dr. Helen Mitchell, dean, School of Home Economics, University of Massachusetts, who spoke on "Recent Developments in Protein, Minerals, and Energy Metabolism," and Dr. George Cowgill, director, Yale Nutrition

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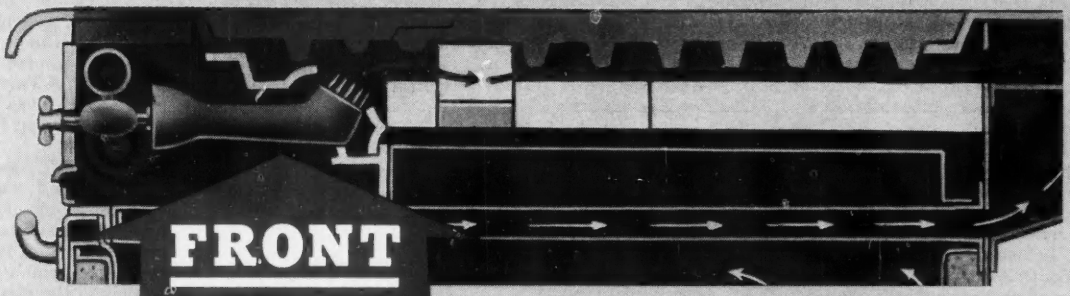

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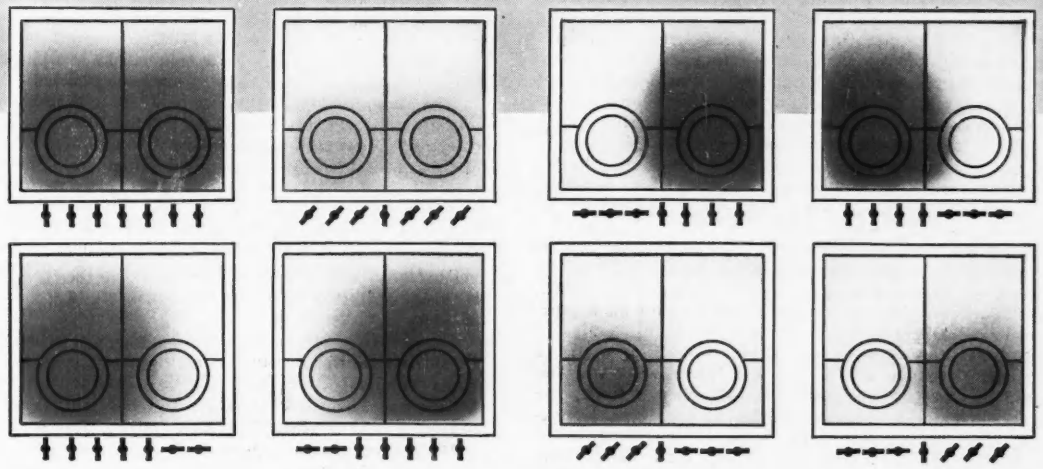

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Laboratory, whose topic was "Recent Developments in the Vitamins."

Newly elected officers of the Connecticut Dietetic Association are: President, Sister Jean Dolores, St. Raphael's Hospital, New Haven; President-Elect, A. June Bricker, Connecticut Dairy and Food Council, Hartford; Vice-President, Martha Potgieter, University of Connecticut, Storrs; Secretary, Selma Swatsburg, Connecticut State Department of Health, Hartford; and Treasurer, Marie Buckley, Waterbury Hospital, Waterbury.

Iowa Dietetic Association. At the fall meeting of the Iowa Dietetic Association held November 6 at Iowa State College, Ames, the topic of "The Dietitian and Public Relations" was discussed by Henrietta Becker, director of dietetics, Barnes Hospital, St. Louis, following a report of the A.D.A. convention by Dr. Grace M. Augustine. Other papers included "Food in Europe," by Clarence Wilson, director of information, Iowa Farm Bureau Federation, and "Dental Health," by Dr. Olin E. Hoffman, director of the Division of Dental Hygiene, Iowa State Department of Health. Jennie Bang discussed "Qualifications, Responsibilities, and Personnel Policies of the Food Service Staff in Accredited Iowa Hospitals."

Louisiana Dietetic Association. On September 8, the *New Orleans Dietetic Association* held its first monthly meeting of the year at the Monteleone Hotel. Dr. William Parson of Ochsner Clinic presented a review of the topic, "Obesity," stressing the fact that overweight is not usually due to glandular malfunction, but to some deepseated emotional disturbance.

Missouri Dietetic Association. A two-day fall meeting was held at the Hotel Statler, St. Louis, on November 7 and 8. A well-rounded program included papers on kitchen planning, food preparation, psychological aspects of feeding, the dietitian's role in public relations, dietetics in relation to geriatrics, the foreign nutrition situation, and recent cancer research. In addition, a panel discussion was conducted on vocational information for future dietitians.

Officers for 1947–48 are: President, Helen McLachlan, St. Louis University Hospitals; Vice-President, Luella O'Neill, Kansas City University; Secretary, Lois Scripter, Veterans Administration, St. Louis; and Treasurer, Helen Latta, Jewish Hospital, St. Louis.

Nebraska Dietetic Association. The second meeting of the year of the *Omaha Dietetic Association* was held on October 6 at Father Flanagan's Boys' Town. Dr. Plewa, Boys' Town psychiatrist, told the group about his experiences in counseling boys.

In Lincoln, women employed on the cooking staffs of various institutions are receiving a fifteen-week training course in quantity cookery. Meeting once a week, the trainees will receive certificates from the Vocational Educational Department at the end of the course. Members of the *Lincoln Dietetic Association* are serving as instructors, under the guidance of a committee composed of Leta Linch, Lincoln General Hospital, who is coordinator for the course; Florence C. Smith, Food and Nutrition Department, University of Nebraska; and Susan Holland, director of lunchrooms, Lincoln Public Schools. The purpose of the course is to stimulate better and cleaner preparation of food in Lincoln institutions.

New York State Dietetic Association. As a public relations project, the *Greater New York Dietetic Association* accepted the invitation of the Women's National Institute to participate in the 24th annual Women's International Exposition held in New York City from November 3 to 9. The association maintained a booth where the exhibit of *Dietetics as a Profession* was displayed, and "Dietitians in Demand" and nutrition leaflets were given out. A half-hour program titled "What's in Your Market Basket?" was given on November 4 in connection with the exposition.

Rhode Island Dietetic Association. The Rhode Island Dietetic Association and the Rhode Island Home Economics Association, in cooperation with the State Department of Education and Rhode Island State College, have inaugurated plans to extend throughout the year a campaign which they hope will further the interest of girls in taking up home economics training. Essentially, the drive will be directed toward encouragement of guidance people and school officials to point out to girls the advantages of a career in the home economics field and the training essential for a good home economist.

The drive was officially ushered in with a Career Day tea on November 18, at the Providence Plantation Club. Invitations were sent to superintendents of schools, principals and guidance teachers of senior and junior high schools, all members of the sponsoring groups, and the president or representatives of the Rhode Island Congress of Parents and Teachers, State Federation of Women's Clubs, the Citizens Committee of Rhode Island, Girl Scouts, Camp Fire Girls, 4-H Clubs, and the YWCA.

The first meeting of the Rhode Island Dietetic Association was held at the State Institutions at Howard, where the members heard reports of the A.D.A. convention. Programs for future meetings are: January, meeting in charge of the project committee chairman; March, a joint meeting with the Home Economics Association which will take the form of an institute; April, a visit to the dietary department at Quonset; and May, the annual meeting.

Tennessee Dietetic Association. As a tribute to the pioneer work and continued interest of Fairfax T. Proudfit in the profession of dietetics, the *Memphis Dietetic Association* has purchased a dogwood tree to be placed on the Dogwood Trail along River Side Drive in Memphis. The Dogwood Trail is a project of the City Beautiful Commission, and outstanding members of the community are being honored in this manner. Each tree will have a permanent marker stating in whose name it has been planted.

The Memphis Association has held two fall meetings, one on September 16, the second on October 22. At the first meeting, the program centered about community education and was presented by Frances Crain of the Memphis Dairy Council. She displayed the health education materials available through the Dairy Council. At the second meeting, held at Kennedy Veterans Administration Hospital, Dr. Benjamin R. Gendel spoke on "Management of the Diabetic Diet." In addition, Beverly Cassity of Kennedy Hospital exhibited materials used in teaching the diabetic patient.

Officers for 1947–48 of the Memphis Association are President, Edith Graham, chief dietitian, Kennedy Veterans Administration Hospital; Vice-President, Kathleen Abernathy, Kennedy Hospital; and Secretary-Treasurer, Frances Crain, director, Memphis Dairy Council.

Wisconsin Dietetic Association. The opening meeting of the year of the *Milwaukee Dietetic Association* was held at the Schroeder Hotel on October 1. Members were guests at dinner of the Dairy Council of Milwaukee, and guest of honor was Frances B. Floore, Columbus, Wisconsin. The evening's program featured a description of the Dairy Council's community nutrition education activities by Elizabeth Sullivan, director and nutritionist of the Council. Miss Floore described her experiences in Greece with UNRRA, where she promoted and supervised a school feeding program for two years. Following her return to this country, she went to Puerto Rico to conduct a six-week institute for graduate dietitians at the University of Puerto Rico under the direction of Dr. Lydia Roberts.

At the November meeting, held on November 5 at the YWCA, Dr. Donald Willson spoke on "Diet Used in Treatment of Hepatitis," followed by Dr. James Conley, whose topic was, "Use of High-Protein Diets in Surgical Cases."

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Edith Shaughnessy gave a short resume of the A.D.A. convention.

The December meeting will take the form of an exchange of holiday ideas, and each hospital dietitian has been asked to bring a sample of a suitable holiday tray favor. The Milwaukee Gas Company will also present suggestions for holiday foods.

Meetings planned by the Milwaukee Association for 1948, according to the printed program issued for the first time this year, will include: January, Dr. Michael Shutkin, "Gastrointestinal Diseases"; February, Visual Education; March, "New Trends in Nutrition"; April, S. Margaret Gillam, "Aspects of Hospital Administration"; May, Dr. Joseph Bock, "What Starvation Does to the Human Body"; and June, a picnic by the homemakers group and election of officers.

Officers for 1947–48 of the Milwaukee Association are: President, Helene Henley; President-Elect, Ruth Humboldt; Vice-President, Marguerite Anacker; Secretary, Virginia Pflaum; and Treasurer, Cecelia Waldeck.

News about Members

The following members of the American Dietetic Association have recently accepted new positions or appointments:

Betty G. Antony on November 1 became therapeutic dietitian at Colorado General Hospital in Denver.

Letitia F. Ayers is now dietitian at Cedar Lodge, a convalescent hospital in Los Angeles.

Hazel J. Baker has joined the staff of the Department of Home Economics of the University of Delaware, Newark.

Charmian Beach recently became assistant therapeutic dietitian, South Side Unit, Youngstown Hospital, Youngstown, Ohio.

Virginia Laskie Bitters has accepted a position as assistant to the director of residence halls at the University of Missouri, Columbia.

Betty Mueller Brantley has resigned her position on the faculty of Louisiana State University and recently started work as head dietitian at Calcasieu Parish Hospital, Lake Charles, Louisiana.

Ruth Buchman is now chief dietitian at Beth Israel Hospital, New York City.

Sarah Bush has accepted a position as therapeutic dietitian at the John Sealy Hospital, Galveston.

Dorothy Delmar, formerly in charge of the cafeteria at Westhampton School, Richmond, Virginia, is now cafeteria manager at Thomas Jefferson High School in the same city.

Anna Belle Dorsey has accepted a position at Camden Clark Hospital, Parkersburg, West Virginia. She recently completed her internship at the Medical College of Virginia.

Margaret Dykes is assistant manager of Tapoco Lodge, Tapoco, North Carolina.

Frances Ellis is a new dietitian at Jefferson Hospital, Roanoke, Virginia.

Ruth Ewert has joined the staff of Mercy Hospital, Burlington, Iowa, as therapeutic and teaching dietitian.

Mary T. Ford recently became a member of the dietary department of Milwaukee County Hospital, Milwaukee, Wisconsin.

Mary Tundevold Frang has joined the faculty of the Department of Foods and Nutrition, Michigan State College, East Lansing.

Dorothy Chapman Fultz is now on the staff at DePaul Hospital, Norfolk, Virginia.

Mary C. Gardner has resigned from the Cushing Veterans Administration Hospital, Framingham, Massachusetts, to accept a position as dietitian at Stamford Hall, Stamford, Connecticut.

Shirley Grace on October 1 became cafeteria dietitian at St. Luke's Hospital, Chicago.

Marion Gray is a new member of the faculty of the Department of Home Economics of the University of Toledo, Toledo, Ohio.

Natalie L. Grochow is the director of New Hall at Montana State University, Missoula.

Marjorie Henderson is a new member of the staff at Good Samaritan Hospital, Portland, Oregon.

Virginia Pierce Jansse is the new administrative dietitian at the San José Hospital, San José, California.

Barbara Jones has accepted a position with Bellin Memorial Hospital, Green Bay, Wisconsin.

Mable Joan Jones has received an appointment as professor of institution administration at Florida State University, Tallahassee.

Catherine Jupp is now dietitian at Annesley Hall, one of the women's residences at Victoria College, Toronto.

Ruth Helen Lange has resigned from Los Angeles County General Hospital and has accepted a position at St. Vincent's Hospital, Los Angeles.

Bernes E. Larson recently became educational director of dietary services at Baptist Memorial Hospital, Memphis.

Harriet Lohr-Olsen is a new assistant dietitian at St. Elizabeth's Hospital, Yakima, Washington.

Frances MacKinnon, past-president of A.D.A. and chairman of the JOURNAL Board, has left the Children's Bureau and has accepted an appointment to the faculty of the Harvard School of Public Health.

Caryl Maher is assistant dietitian, Silver Cross Hospital, Joliet, Illinois

Sally Mooring has left State Hospital, Morganton, North Carolina, to become instructor in home economics at Women's College of the University of North Carolina, Greenboro.

Julia Moynihan recently became dietitian for the residence halls at Mt. Holyoke College, South Hadley, Massachusetts.

Madge Myers on November 17 took up duties as assistant director of the dietary department at Ohio State University, Columbus.

Dolores Nyhus is now administrative dietitian at Permanente Foundation Hospital, Oakland, California.

Mary Louise Park has been appointed cafeteria manager for Westhampton School, Richmond, Virginia.

Eunice R. Powers is with Methodist Hospital, Fort Wayne, Indiana. She was formerly at Veterans Administration Hospital, Richmond, Virginia.

Ellen Quigley is now director of the cafeteria for the employees of the Great Atlantic and Pacific Tea Company in New York City.

Marguerite E. Richards has been assistant dietitian at Albany Hospital, Albany, New York, since July 1.

Agnes Sampson has left the Elgin State Hospital, Elgin, Illinois, to accept a research position with Mayo Clinic, Rochester, Minnesota, where she will work with Dr. Russell Wilder.

Margaret Schoffman recently became staff dietitian at St. Barnabas Hospital, Minneapolis. She was formerly with the Veterans Administration Hospital, Ft. Harrison, Montana.

Gladys L. Sell is organizing for the first time a dietary department for Lago Oil and Transport Co., Ltd., in Aruba, Netherlands West Indies.

Dorothy Elinor Singer has joined the staff of St. Mary's Hospital, St. Louis, as therapeutic dietitian.

Lucinda Six is now assistant dietitian at Reid Memorial Hospital, Richmond, Indiana.

Marian Sizelove on October 1 became educational director for the dietary department of Barnes Hospital, St. Louis.

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The following abbreviations indicate the source of the material indexed: "ab" abstract under Current Literature; "cc," Current Comment; "ed," editorial; "f," filler; "nn," News Notes. An asterisk indicates an original article in this JOURNAL. Book reviews Appear in the subject index under "Book Reviews." Author index, which follows subject index, includes only the names of authors of original material appearing in this JOURNAL in full or abstracted in the editorial section or in fillers, and authors of books reviewed.

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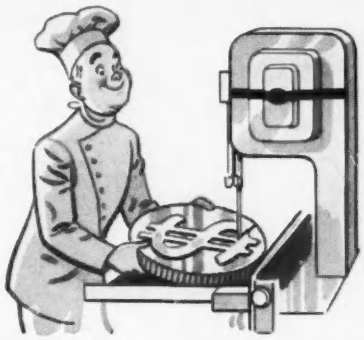

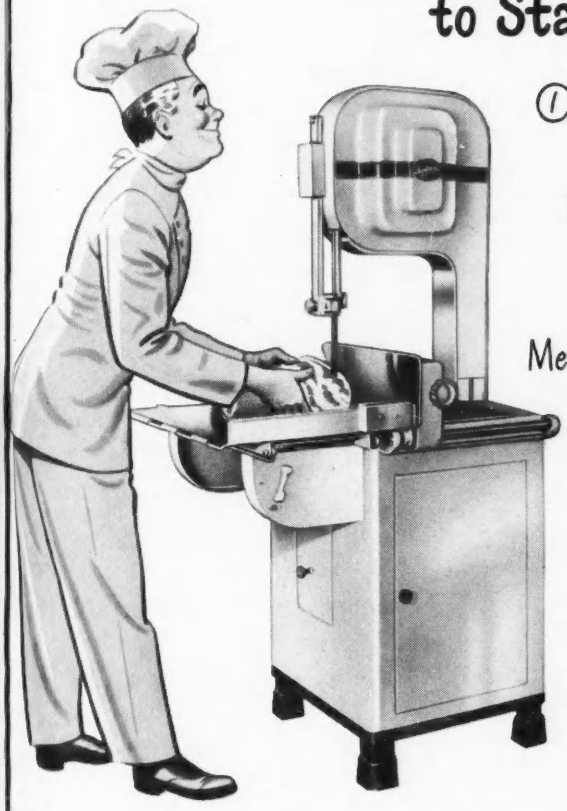

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